APPENDIX A

1. **ACG Study: The Socio-Economic Land Use and Accessibility Impacts of the Proposed I-355 Extension**

The Socio-Economic, Land Use and Accessibility Impacts of the Proposed I-355 Extension

Prepared for the
Illinois Department of Transportation
and the
Illinois State Toll Highway Authority

ACG The al Chalabi Group, Ltd.
in association with HDR Engineering, Inc.

The Socio-Economic, Land Use and Accessibility Impacts of the Proposed I-355 Extension

Prepared for the
Illinois Department of Transportation
and the
Illinois State Toll Highway Authority

October 2000

ACG The al Chalabi Group, Ltd.
in association with HDR Engineering, Inc.

The al Chalabi Group, Ltd.
330 West Diversey Parkway • Suite 1403
Chicago, Illinois 60657
773•871•0900

Table of Contents

Executive Summary

I. The Socio Economic, Land Use and Accessibility Impacts of the Proposed I-355 Extension

A. Introduction - The Assignment . . . . . Page 1

B. Overview of the Methodology . . . . . Page 2

C. Determining the Study Area . . . . . Page 3

D. The NIPC/CATS Regional Transportation Planning Process and Forecasts . . . . . Page 5

1. Historical Background . . . . . Page 5

2. Theoretical Underpinning of the DRAM/EMPAL and Combined Models . . . . . Page 6

3. The NIPC Socio-Economic Forecasts . . . . . Page 6

E. Methodology for Disaggregating the RTP System Impacts to Impacts of Individual Projects . . . . . Page 9

1. Overview . . . . . Page 9

2. Population and Employment Impacts of the RTP System . . . . . Page 10

3. Determining the Development Impacts on Populations and Employment Distribution of the I-355 Extension and I-80 Add Lanes . . . . . Page 18

F. Summary of Findings . . . . . Page 29

1. Summary Table Impacts . . . . . Page 29

2. Consistency with NIPC Forecasts . . . . . Page 31

3. Study Conclusions . . . . . Page 31

G. Final NIPC Refinement of DRAM/EMPAL-Generated Forecasts. . . Page 32

II. Supplemental Analysis: Impact of Transportation on Urban Form and Job/Household Balance in the Chicago Six-County Region

A. Introduction . . . . . Page 34

B. Methodology . . . . . Page 34

C. Excess Jobs by NIPC Planning Zones (DEZ's) . . . . . Page 35

D. Excess Jobs by Quarter-Section . . . . . Page 36

E. Availability and Suitability of Land for Urban Development Page42

F. Guiding Urban Development and the Impact of the I-355 Extension . . . . . Page 43

G. Conclusions . . . . . Page 44

III. Supplemental Analysis: Analysis of CATS Trip Generation and Distribution; and the Impact of I-355 on Access to Jobs

A. Introduction and Background . . . . . Page 55

B. Methodology . . . . . Page 55

C. Major Findings in Work Trip End Changes . . . . . Page 55

D. Comparative Detailed Impacts of Three Transportation Alternatives . . . . . Page 56

1. Changes in Zone 1548 . . . . . Page 57

2. Changes in Zone 1523 . . . . . Page 57

3. Changes in Zone 1594 . . . . . Page 67

E. Additional Zonal Comparisons . . . . . Page 67

F. Conclusions . . . . . Page 67

List of Tables

List of Exhibits

Appendix

List of Tables

Table 1 - Impacts of 2020 Regional Transportation Plan Projects: Population and Employment Forecasts-Project Study Area . . . . . Page 7

Table 2 - Total Net Changes in Study Area . . . . . Page 18

Table 3 - Summary of Population and Employment Impacts of I-355 Extension South . . . . . Page 30

List of Exhibits

Exhibit ES 1 - Population Impacts of I-355 . . . . . Page vii

Exhibit ES 2 - Employment Impacts of I-355 . . . . . Page viii

Exhibit ES 3 - Job/Household Balance in 1995 . . . . . Page ix

Exhibit 1 - Regional Base and Project Study Area . . . . . Page 4

Exhibit 2 - NIPC Population Forecasts 1990 - 2020 Without RTP Projects - Existing Airports . . . . . Page 11

Exhibit 3 - NIPC Population Forecasts 1990 - 2020 With All RTP Projects - Existing Airports . . . . . Page 12

Exhibit 4 - NIPC 2020 Population Forecast Differences Between RTP and No-RTP . . . . . Page 13

Exhibit 5 - 1990 - 1995 Household Change . . . . . Page 15

Exhibit 6 - Population Change 1990 - 1998: Project Study Area . . . . . Page 16

Exhibit 7 - NIPC 2020 Employment Forecasts Differences between RTP and No-RTP . . . . . Page 17

Exhibit 8 - Population Impacts of I-355 (Existing Airports) . . . . . Page 20

Exhibit 9 - Employment Impacts of I-355 (Existing Airports) . . . . . Page 21

Exhibit 10- Population Impacts of I-355 (South Suburban) . . . . . Page 22

Exhibit 11 - Employment Impacts of I-355 (South Suburban) . . . . . Page 23

Exhibit 12 - Impacts of I-355 Extension on Changes in Accessibility for NIPC Zone 630 . . . . . Page 25

Exhibit 13 - Impacts of I-355 Extension on Changes in Accessibility for NIPC Zone 607 . . . . . Page 26

Exhibit 14 - Impacts of I-355 Extension on Changes in Accessibility for NIPC Zone 16 . . . . . Page 27

Exhibit 15 - Impacts of I-355 Extension on Changes in Accessibility for NIPC Zone 223 . . . . . Page 28

Exhibit 16 - Job/Household Balance - 1995 . . . . . Page 37

Exhibit 17 - Job/Household Balance - 1970 . . . . . Page 38

Exhibit 18 - Job/Household Balance - 1980 . . . . . Page 39

Exhibit 19 - Job/Household Balance - 1990 . . . . . Page 40

Exhibit 20 - Change in Excess Jobs 1970 - 1995 . . . . . Page 41

Exhibit 21 - Job/Household Balance - 1995 . . . . . Page 46

Exhibit 22 - Job/Household Balance - 1970 . . . . . Page 47

Exhibit 23 - Land in Urban Uses: Including Public Open Space - 1990 . . . . . Page 48

Exhibit 24 - Land Not in Urban Uses: Agriculture, Vacant and Wetlands - 1990 Distances from Chicago Central Area . . . . . Page 49

Exhibit 25 - Land Not in Urban Uses: Agriculture, Vacant and Wetlands - 1990 Distances from O'Hare Airport . . . . . Page 50

Exhibit 26 - Job/Household Balance - 2020 All RTP Projects - Existing Airports Scenario . . . . . Page 51

Exhibit 27 - Job/Household Balance - 2020 No-RTP Projects - Existing Airports Scenario . . . . . Page 52

Exhibit 28 - Job/Household Balance - 2020 All RTP Projects - South Suburban Airport Scenario . . . . Page 53

Exhibit 29 - Job/Household Balance - 2020 No-RTP Projects - South Suburban Airport Scenario . . . . Page 54

Exhibit 30 - Changes in Travel Times to Work Full-Build versus No-Build Scenario - Zone 1548 . . . . . Page 58

Exhibit 31 - Changes in Travel Times to Work Arterial Enhancements versus No-Build - Zone 1548 . . . . Page 59

Exhibit 32 - Changes in Travel Times to Work Lemont By-Pass versus No-Build - Zone 1548 . . . . . Page 60

Exhibit 33- Changes in Travel Times to Work
Full Build versus No-Build Scenarios - Zone 1523 . . . . . Page 61

Exhibit 34 - Changes in Travel Times to Work
Arterial Enhancements versus No-Build - Zone 1523 . . . . Page 62

Exhibit 35 - Changes in Travel Times to Work
Lemont By-Pass versus No-Build - Zone 1523 . . . . . Page 63

Exhibit 36 - Changes in Travel Times to Work
Full-Build versus No-Build Scenarios - 1594 . . . . . Page 64

Exhibit 37 - Changes in Travel Times to Work
Arterial Enhancements versus No-Build - Zone 1594 . . . . Page 65

Exhibit 38 - Changes in Travel Times to Work
Lemont By-Pass versus No-Build - Zone 1594 . . . . . Page 66

Exhibit 39 - Changes in AM Travel Times
Full-Build versus No-Build Scenarios - Zone 1566 . . . . . Page 68

Exhibit 40 - Changes in AM Travel Times
Arterial Enhancements versus No-Build - Zone 1566 . . . . Page 69

Exhibit 41 - Changes in AM Travel Times
Lemont By-Pass versus No-Build - Zone 1566 . . . . . Page 70

Exhibit 42 - Changes in AM Travel Times
Full-Build versus No-Build Scenarios - Zone 671 . . . . . Page 71

Exhibit 43 - Changes in AM Travel Times
Arterial Enhancements versus No-Build - Zone 671 . . . . . Page 72

Exhibit 44 - Changes in AM Travel Times
Lemont By-Pass versus No-Build - Zone 671 . . . . . Page 73

Exhibit 45 - Changes in AM Travel Times
Full-Build versus No-Build Scenarios - Zone 1642 . . . . . Page 74

Exhibit 46 - Changes in AM Travel Times
Arterial Enhancements versus No-Build - Zone 1642 . . . . Page 75

Exhibit 47 - Changes in AM Travel Times
Lemont By-Pass versus No-Build - Zone 1642 . . . . . Page 76

The Socio-Economic, Land Use and Accessibility Impacts of the Proposed I-355 Extension

Executive Summary

Study Objective

The Illinois State Toll Highway Authority (ISTHA) and the Illinois Department of Transportation (IDOT) are undertaking, jointly, a study to evaluate the transportation, socio-economic, accessibility and environmental impacts of the proposed I-355 Extension through Western and Central Will County. IDOT and ISTHA commissioned The al Chalabi Group, Ltd. (ACG), a subcontractor to HDR Engineering, Inc., to prepare a set of socio-economic and land use forecasts to be used in an evaluation of various transportation alternatives servicing the area. These forecasts were to be an input to the regional transportation model of the Chicago Area Transportation Study (CATS). ACG analyzed selected outputs of this model for the Study Area.

The Study Areas

The study considers forecasts and impacts for three areas of analysis; these are:

- Regional - all six counties of the Northeastern Illinois Planning Commission (NIPC) region.
- Project Study Area - the extended impact area in Will and adjacent Counties.
- I-355 Extension Corridor - which, with I-80, constitute the immediate impact area.

The six-county socio-economic forecasts and impacts of the Regional Transportation Plan (RTP) were prepared by NIPC, as part of the officially-adopted RTP, and are used as the control totals. The Project Study Area consists of thirteen townships in Northwestern Will County, Lemont Township in Cook County and narrow portions of adjacent townships in DuPage and Cook Counties. The I-355 Corridor was defined as narrowly as possible (two DRAM/EMPAL zone widths) to capture the maximum impact of the proposed project.

Note: Throughout this Study, the RTP, slightly modified for this project analysis, is referred to as the Environmental Assessment Full Build or EA Full Build.

Methodology for Determining Socio-Economic Forecasts

The Consultants accepted all data generated by NIPC and CATS for the 2020 Regional Transportation Plan (RTP) process, including:

- NIPC forecasts for RTP Build and RTP No-Build networks (DRAM/EMPAL-model produced).
- 2020 accessibility measures as provided by CATS to NIPC (Combined Model-generated), as input to the DRAM/EMPAL model.
- CATS work-oriented highway and commuter rail ridership.
- Socio-economic data for 1996 base and 2020 RTP used by CATS for its trip generation forecasts.

Although NIPC had used the DRAM/EMPAL to estimate the overall RTP impacts, it was in the process of refining its model to estimate impacts of individual projects. This fact, plus strict project time constraints, plus the fact that NIPC's refinements were for only one (Existing Airports) of two regional plan alternatives (the other being the South Suburban Airport Alternative) made it necessary to use an alternative, but consistent, method to disaggregate impacts.

The ACG methodology for disaggregating these regional forecasts/impacts into project impacts (I-355 Extension Corridor) can best be described as a rigorous accounting system that:

- Balances highway and rail work trips with connections between jobs and labor force.
- Relates changes in travel impedances to changes in area attractiveness and development potential.
- Balances increases in attractiveness to one area with decreases in other NIPC areas.
- Balances the subtotal of impacts of specific projects with RTP system impacts.

During the conduct of this study, NIPC was completing DRAM/EMPAL refinements. As a test of its model's disaggregating abilities, NIPC conducted a parallel analysis of the I-355 Extension. NIPC's results were very similar to those obtained in the ACG study. NIPC's numbers were accepted, in toto, for the Existing Airports Alternative. ACG completed the analysis for the South Suburban Airport Alternative. After presentation of the study findings, the NIPC Planning Committee found both results, "consistent with the analysis used to produce the endorsed NIPC forecasts". ACG completed the forecast assignment by preparing small area forecasts for use in the CATS model. The analysis is presented as Section I in this report. A later NIPC refinement - conducted as part of its standard process - was considered minor and within the margin of error of any long-range forecasts.

Population and Employment Impacts of the I-355 Extension

The forecasted population and employment increases, between 1990 and 2020, for the entire Project Study Area are very large. Both are expected to nearly double the existing development under both RTP and No-RTP alternatives. In fact, because the early focus of much of the RTP is on north and northwestern portions of the region, the Study Area would not grow as much under the RTP as under the No-RTP. However, the difference between Building and Not-Building the entire RTP is slight; it represents approximately 2 to 3 percent of the population growth and 0.7 to 0.8 percent of the employment growth.

The impact of the proposed I-355 Extension is even smaller, under both Existing Airports and South Suburban Airport Alternatives, if the entire Project Study Area is examined. The employment impacts are the same for both alternatives (with and without I-355); and there are minuscule differences in the population impacts of these two alternatives. The reason for these modest impacts is that attractions to the proposed I-355 Extension are offset by reductions farther away in the Project Study Area. It is for this reason, that IDOT decided to quantify the impacts of a narrowly-defined I-355 Extension Corridor, alone. However, the findings also indicate that the I-355 Extension consolidates this development.

Supplemental Analysis: Impact of Transportation on Urban Form and Job/Household Balance in the Chicago Six-County Region

Subsequent to ACG's completion of the socio-economic forecasts and the above-described findings, it was decided that additional analysis be undertaken to better explain why the population and job impacts of the I-355 Extension were so limited. ACG reviewed the urban development patterns of the region from 1960 to 1995 and the impacts which transportation and major use generators (Chicago Central Business District and O'Hare Airport) had on that development.

A key element of this analysis was a description of job/household balance, by NIPC planning zones (DEZ's), and the changes that occurred as a result of the development and expansion of O'Hare Airport. During the study period (1960-1995), the area around O'Hare first rivaled, then supplanted, the Chicago Central Area as the major employment center of the region; and it changed many travel patterns. The result is a thriving and growing employment focus at O'Hare that has spread into Central DuPage County. This job abundance attracts many workers from the Study Area, which currently has a substantial job deficit. Furthermore, it is evident that the highways leading to and from this job concentration provide the corridors for further extending its economic benefits; and that they also tend to consolidate this development.

For the above reason, it was necessary to determine two outcomes: first, whether the proposed I-355 Extension would tend to concentrate the additional development attracted to the study area; and second, how well it would provide access to the substantial job pool in South and Central DuPage County for the residents of the Study Area. The analysis and description of the first outcome is given in Section II of this report. That outcome corroborates the initial finding that the I-355 Extension would consolidate the employment and population development and produce higher densities along the corridor. A determination of the second outcome required an analysis of data from this section in tandem with an analysis of the CATS trip generation and distribution outputs.

Supplemental Analysis: An Analysis of CATS Trip Generation and Distribution and the Impact of I-355 on Access to Jobs

The socio-economic forecasts were submitted to CATS who, in addition to their standard analysis, provided the following output:

- Total auto trips in the trip interchange during the am peak
- Auto mode work trips at am peak
- Congested auto travel time, in minutes, from the am peak

The ACG analysis of the CATS output is described in Section III. It indicates that the I-355 Extension provides excellent access from the Study Area to the major job concentrations of Central DuPage County and, in so doing eliminates many scattered work trips to areas outside the Six-County region and to the job-scarce areas of South Cook County and the South Side of the City of Chicago. Furthermore, when compared with the outcome from two other alternatives - Arterial Enhancements and Lemont By-Pass - the I-355 performs much better than the former and marginally better than the latter, in this respect.

Study Conclusions

The major conclusion of the study is that the proposed I-355 Extension, alone, is responsible for a population increase, in its narrowly-defined corridor, of 5,038 to 6,058 persons, or approximately 1.3 to 1.4 percent of the total forecasted "Baseline" transportation projects impacts. Adding the synergistic impacts of I-80, the proposed I-355 Extension contributes 6,886 to 8,242 persons, or 1.8 to 1.9 percent, of the forecasted 1990 to 2020 population growth. However, even this modest growth within the corridors is countered by nearly-equal reductions elsewhere in the Project Study Area. Consequently, the net population impact within the Project Study Area is 1,311 to 2,669 persons, or 0.3 to 0.6 percent of the total forecasted population growth. These impacts are shown in Executive Summary Table 1, following. The first number in each impact is for the Existing Airports Alternative; the second, for the South Suburban Airport Alternative).

Executive Summary Table
Summary of Population and Employment Impacts of I-355 Extension South

Expansion of Existing Airports Scenario

Population Impacts	Positive Change (2)	Negative Change (3)	Net Change (1)
I-355 Corridor	5,204	(166)	5,038
I-80 Corridor	1,848	0	1,848
Sum of Two Corridors	7,052	(166)	6,886
Study Area	7,433	(6,122)	1,311
Employment Impacts			
I-355 Corridor	1,464	(309)	1,155
I-80 Corridor	106	(65)	41
Sum of Two Corridors	1,570	(374)	1,196
Study Area	1,737	(1,569)	168

South Suburban Airport Scenario

Population Impacts	Positive Change (2)	Negative Change (3)	Net Change (1)
I-355 Corridor	6,223	(165)	6,058
I-80 Corridor	2,184	0	2,184
Sum of Two Corridors	8,407	(165)	8,242
Study Area	8,788	(6,119)	2,669
Employment Impacts			
I-355 Corridor	1,464	(309)	1,155
I-80 Corridor	106	(65)	41
Sum of Two Corridors	1,570	(374)	1,196
Study Area	1,737	(1,569)	168

Notes:
(1) - Algebraic sum of all Zones within specified area.
(2) - Sum of zones experiencing positive change as result of the I-355 Extension.
(3) - Sum of zones experiencing negative change as result of the I-355 Extension.

The job impacts of the I-355 Extension, alone, are the same under both airport alternatives. The I-355 Extension and the synergistic impact of I-80 attract a total of 1,196 jobs. However, this job growth is counter-balanced by reductions of 1,028 jobs throughout the remainder of the Project Study Area. It is, in effect, a consolidation of many small job losses into two major job concentrations. Consequently, the net job difference is a meager 168; this is 0.1 percent of the total forecasted job growth for the period, 1990 to 2020.

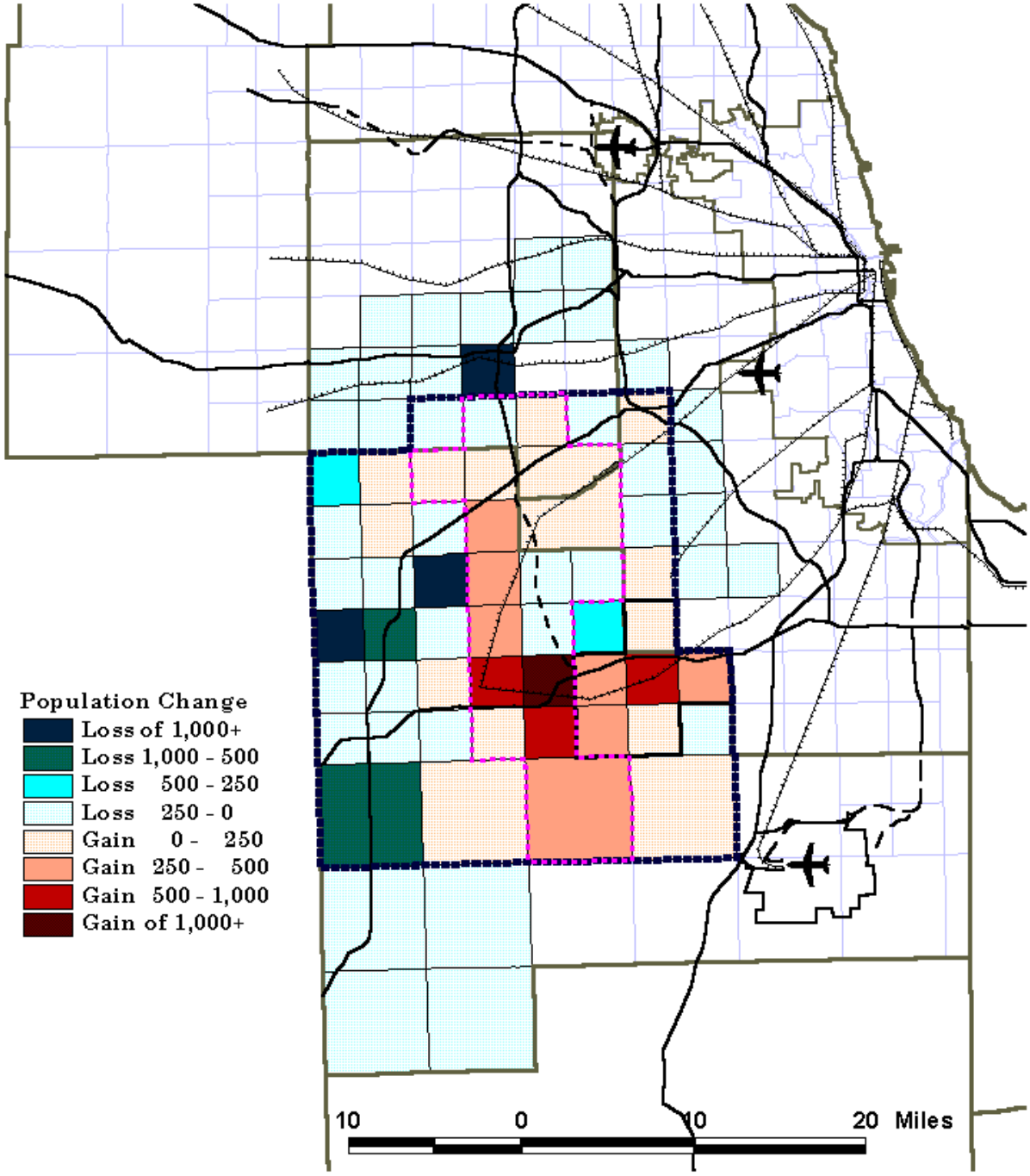
While both the population and job growth, under the EA Full Build alternative are small, they are more concentrated than under the EA No-Build; and the intersection between I-355 and I-80 attracts a high-density development. Also, both population and, particularly, jobs are attracted closer to existing development. Consequently, while the overall impact, within the Study Area, of both jobs and population is relatively insignificant, the benefit of the Proposed I-355 Extension is that it consolidates growth closer to existing urban development and at higher densities, within the corridor, than the EA No-Build alternative.

A second, and equally-important, impact of the I-355 Extension is that it provides excellent access from the job-deficient area of Will County within the study area to the job-rich area of Central DuPage County. Matching workers with jobs benefits both ends of the trip. The job-rich area generates revenues from the places of work; the residential ends of the trips are recipients of local monies spent and municipal tax revenues generated.

The following three Executive Summary Exhibits illustrate, graphically, the major findings of the Study; they are:

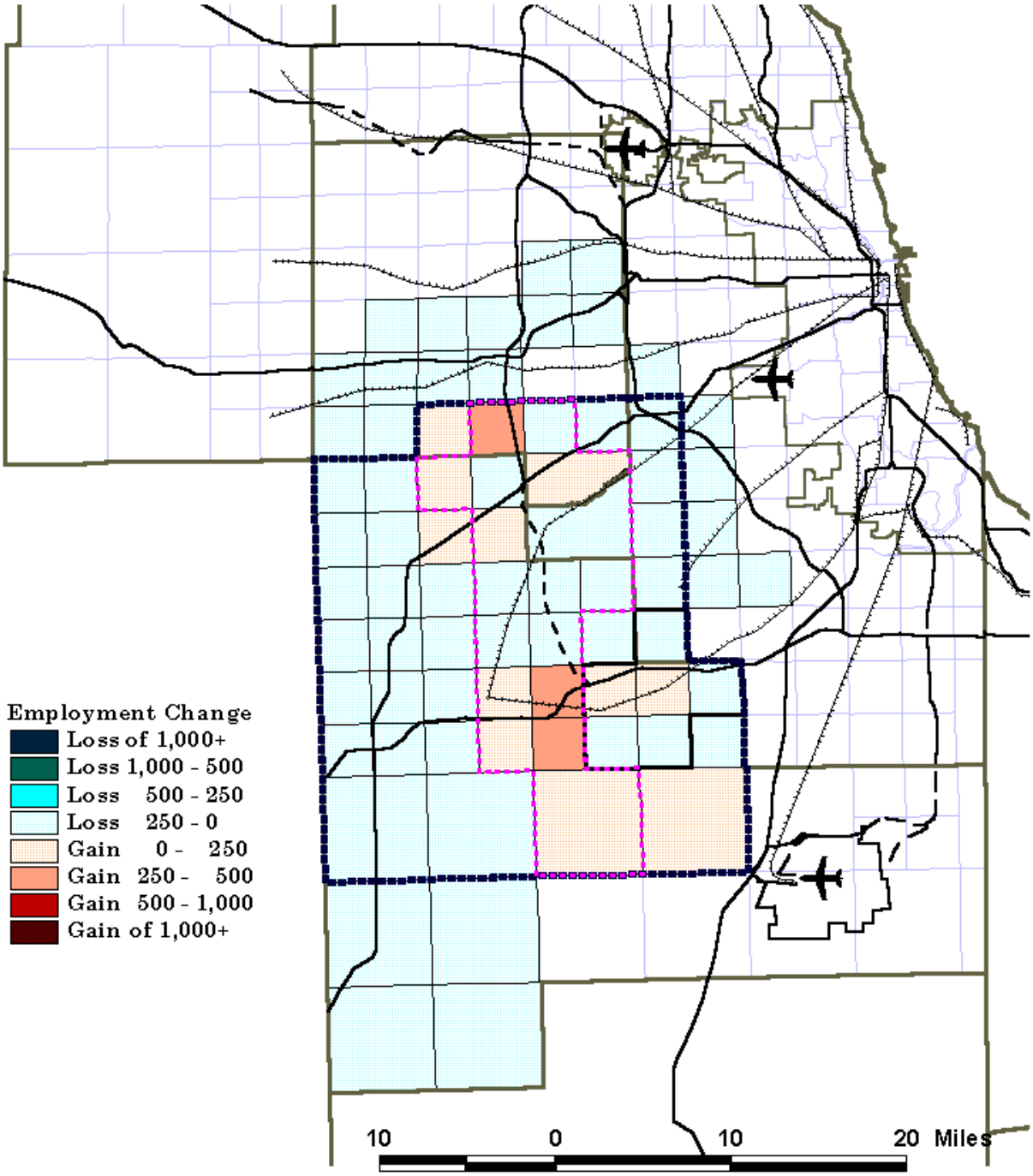
- The Population Impacts of I-355
- The Employment Impacts of I-355
- Job/Household Balance in 1995

Exhibit ES1 : Population Impacts of I-355
Existing Airports Scenario



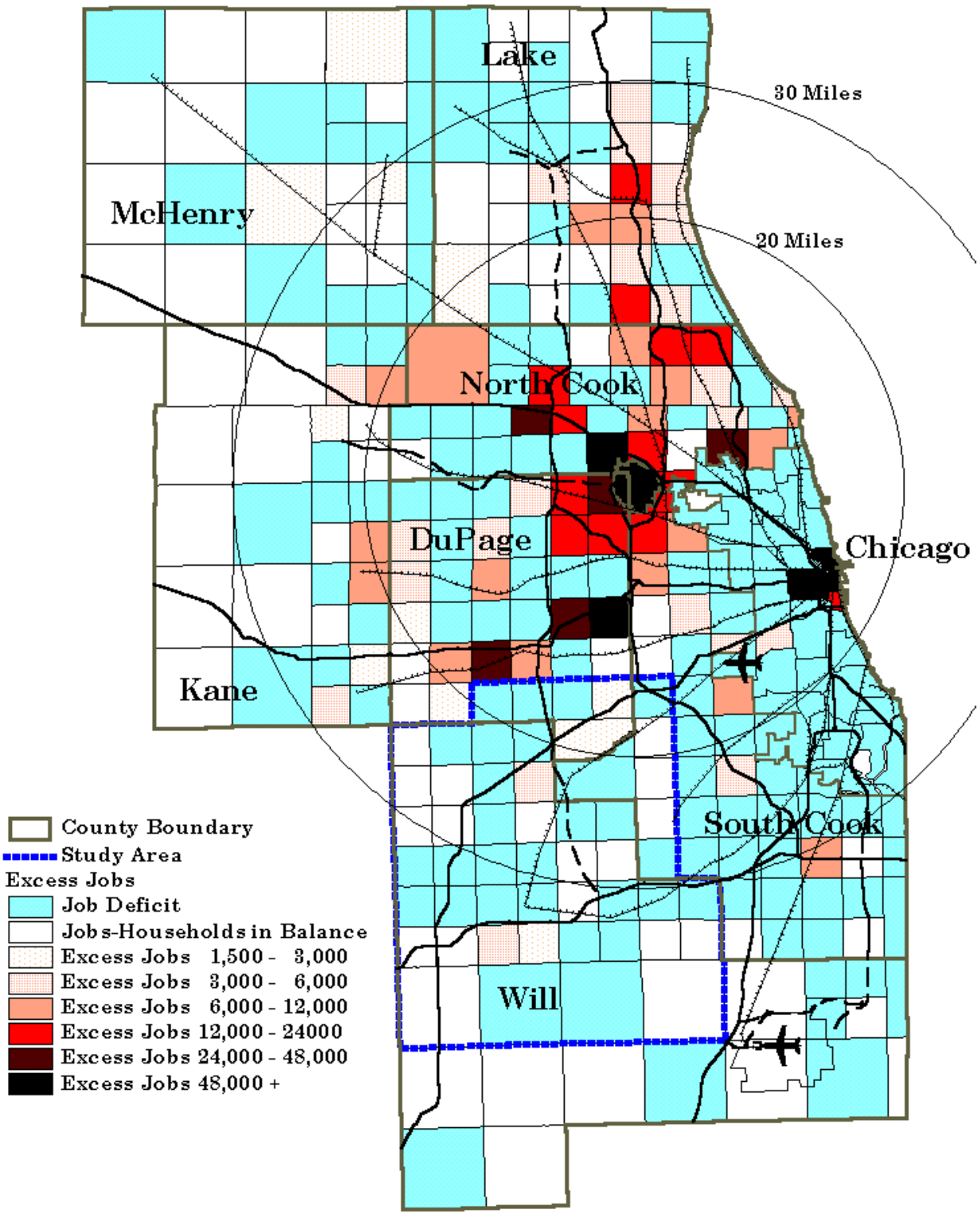
Prepared by The al Chalabi Group, Ltd. **August 1999**

Exhibit ES2 : Employment Impacts of I-355
Existing Airports Scenario



Prepared by The al Chalabi Group, Ltd. **August 1999**

Exhibit ES3 : Job/Household Balance - 1995



Prepared by The al Chalabi Group, Ltd. **January 2000**

I. The Socio-Economic, Land Use and Accessibility Impacts of the Proposed I-355 Extension

A. Introduction - The Assignment

The Illinois State Toll Highway Authority (ISTHA) and the Illinois Department of Transportation (IDOT) are undertaking, jointly, a study to evaluate the transportation, socio-economic and environmental impacts of the I-355 Extension through western and central Will County. This extension connects two major interstates, I-55 and I-80, and, together with the proposed I-53 Extension through Central Lake County, completes a mid-area circumferential for much of the six-county Chicago region. The major objective of this joint study is the quantification of the impacts of the proposed extension, and the synergistic effects of one of its links (the improved I-80) on the development of a study area including Northwestern Will County and portions of DuPage and Cook Counties, in particular, and all of Northeastern Illinois, in general. These forecasts are to be used, subsequently, as input to various transportation alternatives serving the area.

IDOT commissioned The al Chalabi Group, Ltd. (ACG) to prepare a set of socio-economic and land use forecasts to be used to generate the transportation forecasts and the evaluation measures of the various alternatives. ACG had prepared the socio-economic forecasts for a prior ISTHA /IDOT study, the I-53 Extension in Lake County. Working closely with the Northeastern Illinois Planning Commission (NIPC), and using their regional forecasts, ACG developed a forecast methodology, consistent with that of NIPC's regional forecasts, to disaggregate NIPC system forecasts into project forecasts and impacts. Although NIPC had used its forecast model, DRAM/EMPAL, successfully in estimating the impacts of the full Regional Transportation Plan (RTP), it was in the process of a model refinement to enable it to estimate the impacts of individual projects. That ongoing process, plus the strict project time constraints and the fact that NIPC's refinements were for only one of two regional plan alternatives, the Existing Airport Scenario (the other being the South Suburban Airport Scenario) made it necessary to use a consistent alternative. Consequently, IDOT decided to employ the same disaggregation methodology used in the I-53 Extension analysis for the I-355 Extension analysis.

The methodology used in this study recognizes that the socio-economic and land use forecasts, themselves, are influenced both by transportation improvements and the time those improvements are put in place. In other words, development, growth, and infrastructure tend to reinforce one another. The assignment was to determine the impact of one of the major transportation improvements proposed by the officially-adopted Regional Transportation Plan. The first objective was to generate a set of socio-economic forecasts for a "baseline" transportation alternative (i.e. the "no build" alternative for the I-355 Extension). With the exception of the I-355 Extension, the baseline alternative assumes the implementation of all, but one, of the other RTP

projects proposed for the six-county region. That modified RTP is referred to, in this study, as the Environmental Assessment (EA) Full Build. The specific RTP project, other than the I-355 Extension, that is not included in the "baseline" alternative, is:

- The circumferential rail transit service along the existing EJ & E right-of-way. (This is consistent with assumptions of the I-53 Extension study).

In this analysis, one project, the add lanes of I-80, in addition to being considered part of the "baseline", also is considered as having synergistic impacts; for this reason, those synergistic impacts also are estimated, separately.

B. Overview of the Methodology

The methodology, used by ACG to disaggregate the collective impact of all the Regional Transportation Plan projects into project-specific impacts, accepted all the data generated by the Northeastern Illinois Planning Commission (NIPC) and the Chicago Area Transportation Study (CATS) since the start of the 2020 planning process as givens. Included in this set of data are:

- The NIPC forecasts for the RTP (build) and No-RTP (no-build) networks, by NIPC Planning Zones, of which there are 317, as prepared in the Spring of 1997; therefore, this study accepts NIPC-forecasted differences between building and not building the RTP in their entirety.

- 2020 accessibility measures (travel impedances) for the RTP and No-RTP alternatives, as well as a few selected projects, as provided by CATS to NIPC, for the latter to generate its forecasts and to test/refine its models.

- The CATS work-oriented commuter rail ridership and highway users.

- The socio-economic data for the 1996 base, as well as the 2020 RTP and No-RTP networks, for each of the more than 18,000 subzones (quarter-sections) used by CATS for its trip generation forecasts.

ACG employed Metra station boardings and alightings for commuter rail; and established origin and destination data (both historical and forecast) to determine highway ridership. For highway ridership forecasts, work-oriented trip tables, using interchange tables among zones, are the data source. Both population and employment impacts of highway projects are derived from the work-oriented trip tables. The work-oriented trip tables determine the general spatial relationships between work places and housing units.

The highways used to link places of work with houses are identified by proximity and changes in "impedances". "Impedances" (or resistance to flow), as generated by the regional models, are used to estimate accessibility. Impedance is the only factor that changes from the "build" to "no-build" scenarios. It is the changes in impedances resulting from the elimination of the proposed I-355 Extension and the comparison of these changes to changes resulting from not building the EA Full Build system that provided the basis for isolating and quantifying the impacts of the proposed I-355 Extension.

Because the add lanes on I-80 (between I-55 and US45) affect the impacts of the proposed I-355 Extension, these impacts also were calculated. Finally, the population and employment impacts within the Study Area were balanced with impacts, by NIPC planning zone, outside the Study Area. Reasonableness tests, comparing resultant forecasts with NIPC forecasts by planning zone, were carried out to verify the results.

Near the conclusion of the ACG forecast and disaggregation process, NIPC was approaching the final refinement of its DRAM/EMPAL model; and, as a test of the model's disaggregating abilities, it conducted a parallel analysis of the I-355 Extension. The results were very similar to those of the ACG analysis. The NIPC results were accepted, in toto. Consequently, the forecasts for the I-355 Extension, not only are consistent with NIPC forecasts, the results of one alternative ***are*** the NIPC forecasts; furthermore, they have been derived, independently, by two forecasting teams and have netted virtually the same results.

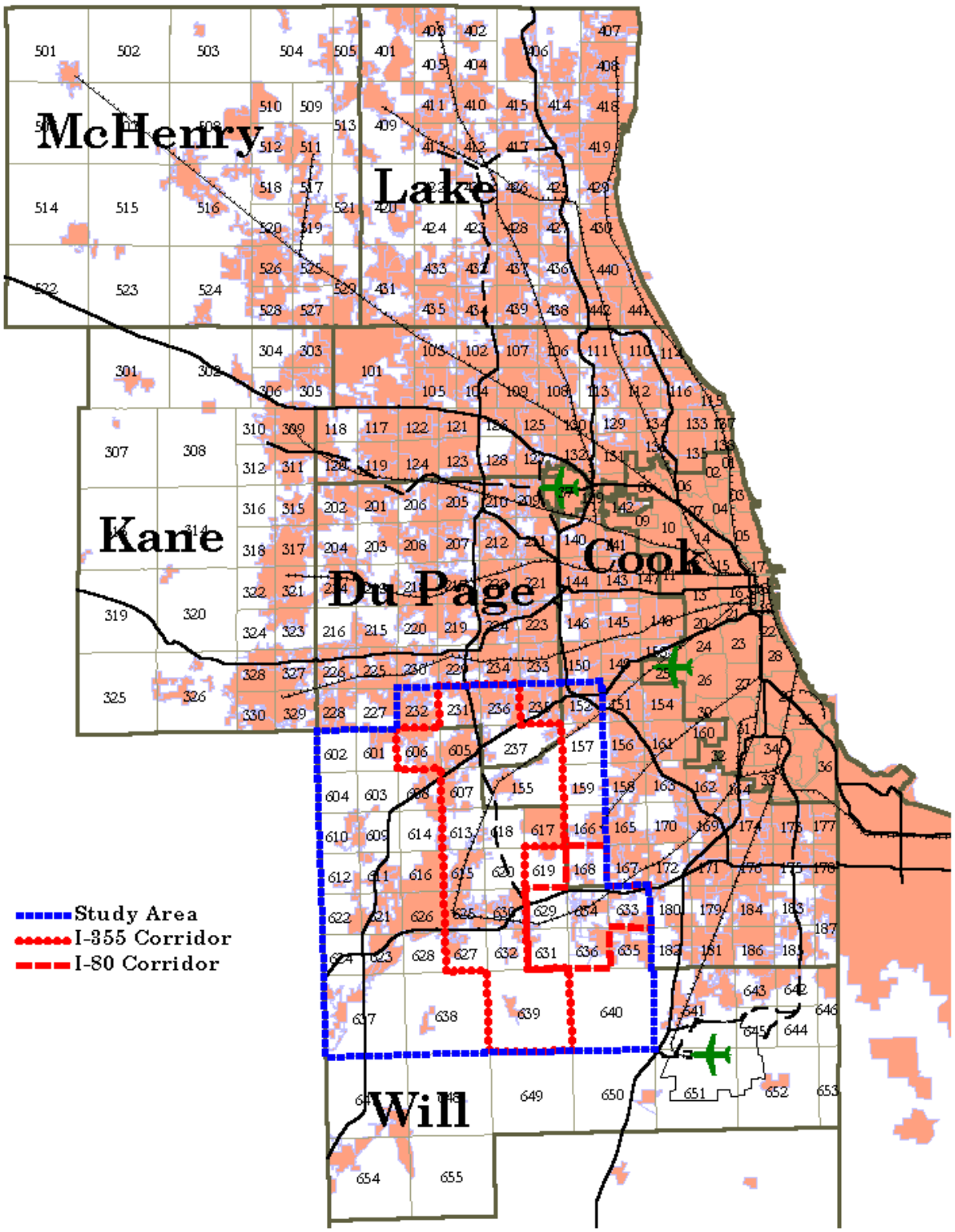
However, because NIPC had not completed its refinement for the South Suburban Airports Scenario (of the two regional forecasts), ACG completed the disaggregating forecast for this alternative. The results are similar. ACG completed the assignment by preparing the small area forecasts (for more than 18,000 quarter sections) for use by CATS in its trip generation forecasts. This approach was the same as that employed by IDOT, NIPC and ACG in its earlier analysis of the IL-53 Extension in Lake County.

C. Determining the Study Area

Three levels of analysis have been prepared for this study; they include forecasts for the following areas:

- Regional - This level includes all six counties of the NIPC region.
- Project Study Area - Describes the extended impact area of the project.
- I-355 Extension Corridor - Which, together with the adjacent I-80 corridor, constitutes the immediate impact area of the project.

Exhibit 1 : Regional Base and Project Study Area



Prepared by The al Chalabi Group, Ltd. **August 1999**

The boundaries of the latter two areas are shown on Exhibit 1. The Project Study Area contains thirteen complete townships in Northwestern Will County; all of Lemont Township in Cook County and narrow portions of four adjacent townships in DuPage and Cook Counties. The I-355 Extension Corridor is narrowly defined by one Transportation Analysis Zone (TAZ) on either side. By defining the I-355 Extension Corridor as narrowly as possible, IDOT is showing the maximum impact of the project. This is because the Corridor tends to attract population from more-diffuse and more-remote distributions and concentrates it within its more-immediate environs. By extending the boundaries, the gains and losses tend to cancel one another out.

D. The NIPC/CATS Regional Transportation Planning Process and Forecasts

1. Historical Background

The 2020 Regional Transportation Plan represents the eighth comprehensive transportation plan for the Chicago region. The first such plan was prepared in the early 1960's, with a 1980 planning horizon. Each planning cycle introduced methodological improvements which attempted to better replicate actual individual and societal behavior, given varying transportation proposals. The 2020 planning process incorporated an important improvement; it internalized the interrelationship between socio-economic forecasts and the resultant transportation plan.

Prior to the 2020 planning cycle, NIPC had generated its socio-economic forecasts, using as input:

- T he Commission's adopted development policies and plans, including the prior-adopted RTP.
- The extent of existing development (land use and infrastructure) and availability of developable land.
- The prevailing social and economic market conditions in the Chicago region and its component sub-areas.

The Chicago Area Transportation Study (CATS) used the NIPC socio-economic forecasts to evaluate alternative transportation plans and to recommend a plan for adoption. The adopted transportation plan then became one of the inputs used by NIPC to generate the next cycle of its socio-economic forecasts.

The 2020 Regional Transportation Plan cycle integrated these two processes. It started with an initial set of socio-economic forecasts, which were used to generate alternative transportation improvements which, in turn, generated the socio-economic forecasts that would result if the proposed improvements were implemented.

Determining the interrelationships between transportation improvements and urban development has been made possible by the adaptation, by NIPC, of the DRAM/EMPAL forecasting model and the availability, at CATS, of a sketch (quick-responding) transportation model, called the Combined Model.

2. Theoretical Underpinning of the DRAM/EMPAL and Combined Models

The theoretical underpinning of the DRAM/EMPAL Model is that accessibility influences locational decision which, in turn, influences accessibility. In deciding upon a location for an activity (e.g. industrial plant, office building, residence), the decision-maker considers the accessibility of the various potential sites to concentrations of various activities (e.g. labor force, job concentrations, schools, recreational activities). This fact is general knowledge to every market analyst, real estate broker and developer; and is used in conducting their day-to-day business. It also is understood that improving the access of developable or redevelopable sites increases the development potential of those sites. The access measures provided to NIPC, for use in its DRAM/EMPAL model, are generated by CATS using the "Combined Model."

The Combined Model, as reflected in its name, combines three steps - trip distribution, modal split and highway assignment - into a single process. Its measure of impedance is a composite cost of travel by both transit and highway. This is an important distinction. For several reasons, primary among which is the substantial degree to which transit is used in this region, the modal split is influenced, significantly, by the contribution of transit, as well as highways, to this combined impedance. This impedance is the only variable, among the many DRAM/EMPAL variables, which changes when examining the impact on socio-economic forecasts of the Regional Transportation Plan, in general, and the proposed I-355 Extension, in particular. All other variables, such as: existing development by type, existing infrastructure (highways, transit, sewerage, utilities, etc.), available developable land, redevelopment potential, density, etc., remain constant.

Both highway and transit facilities are major contributors to regional development. In regard to the model outputs, the following applies; if the transit or highway does not improve the accessibility (reduce impedance) to an area, that area will not attract development as a result of the highway or transit improvement. However, it also is true that, if the transit or highway does not improve accessibility, the Combined Model (or any other transportation model) will not assign ridership to that proposed transit or vehicles to the proposed highway.

3. The NIPC Socio-Economic Forecasts

The NIPC socio-economic forecasts, generated in the Spring of 1997, developed two ground transportation improvement alternatives. The first set assumed no transportation improvements beyond those already committed by 1996, henceforth

referred to as the No-RTP alternative. The second set assumed the implementation of all the ground transportation improvements recommended in the 2020 RTP, henceforth, the RTP alternative.

It should be noted that, during the development of the RTP, the issue of meeting the future aviation needs of the Chicago region were unresolved; and they remain unresolved. Accordingly, two airport development scenarios were evaluated:

- Accommodating all the forecasted 2020 enplanements (82.3 million) at the two existing airports, O'Hare and Midway, (the Existing Airports Scenario).

- Accommodating the 82.3 million enplanements at O'Hare, Midway and a new, supplemental South Suburban Airport (the South Suburban Airport Scenario).

A total of four alternative forecasts were prepared by NIPC. Table 1 shows the 1990 statistics for population and total employment, and forecasts for these factors under the RTP and No-RTP alternative for each of the two airport scenarios for the Project Study Area. These forecasts were incorporated as the EA Full Build and EA No-Build statistics.

The I-355 Extension Corridor and Project Study Area will experience slightly more growth in both population, and employment, under the South Suburban Airport Scenario than under the Existing Airport Scenario. This observation is correct whether comparing the EA Full Build, No-Build or the EA Full Build minus No-Build net columns. The difference in population growth is approximately 13 percent; the difference in employment growth is approximately 8 percent. Accordingly, the South Suburban Airport Scenario represents the worst-case scenario for evaluating transportation impacts in the Project Study Area.

Table 1
Impacts of 2020 Regional Transportation Plan Projects
Population and Employment Forecasts
Project Study Area

	No-Build Alternative	EA Full Build Alternative	Differences (Build minus No-Build)
1990 Statistics			
Population	472,935	Same	-
Employment	143,036	Same	-

Table 1 (Cont.)

	No-Build Alternative	EA Full Build Alternative	Differences (Build minus No-Build)
2020 Existing Airports			
Population	859,951	852,472	-7,479
Employment	302,352	290,091	-12,261
2020 South Suburban Airport			
Population	910,090	898,064	-12,026
Employment	315,414	304,109	-11,305
1990 - 2020 Existing Airports			
Population	387,016	379,537	-7,479
Employment	159,316	147,055	-12,261
1990 - 2020 South Suburban Airport			
Population	437,155	425,129	-12,026
Employment	172,378	161,073	-11,305

Because NIPC has refined its DRAM/EMPAL model for the Existing Airports Scenario, only NIPC's forecasts for the I-355 Extension are used for that alternative. ACG's forecasts for the I-355 Extension are used for the South Suburban Airport Scenario, as well as for corroborating NIPC's Existing Airports Scenario.

In the balance of this report, only the methodology assuming the Existing Airport Scenario will be discussed. However, it should be noted, that ACG prepared "baseline" forecasts for the I-355 Extension for both the Existing Airports and the South Suburban Airport Scenarios. The methodology used for the two forecasts are identical.

It is apparent, from table 1, that the Study Area will experience very substantial growth between 1990 and 2020. Both population and employment are expected to more than double. A substantial amount of that development already has taken place.

It also is apparent that this development will take place whether the EA Full Build is built or not. In fact, with the entire EA Full Build being built, the Study Area experiences a slightly lower growth in both population and employment. These findings are discussed, in greater detail, in the following chapter.

E. Methodology for Disaggregating the RTP System Impacts to Impacts of Individual Projects

1. Overview

The NIPC/CATS forecasts, generated in the Spring through the Fall of 1997, provided the controls for all the forecasts prepared by ACG. The NIPC/CATS forecasts, and associated data, are quite extensive and voluminous and cover a wide spectrum of activities, including the following examples:

- Growth in population and employment by NIPC planning zones (usually 9 square miles) as well as CATS subzones (usually a quarter square mile).

- Change in highway work-trip interchange tables between RTP vs. No-RTP alternatives and transit boardings and alightings.

- Change in impedances, as generated by the CATS Combined Model, resulting from the addition or subtraction of individual or groups of transportation projects.

The ACG methodology can best be described as a rigorous accounting system, with many logical constraints, that:

- Balances highway and commuter rail work-trips with connections between jobs and labor force.

- Relates changes in travel impedances to changes in the development potential of planning zones.

- Balances increases in the attractiveness of one area for development with decreases in other areas and balances the sum total of net changes, by zone, with the NIPC control total.
- Balances the subtotal of the impacts of specific projects with the impacts of the RTP system, both on a region-wide basis and by NIPC

planning zone.

Maintaining all the above constraints leads to the development of a very limited number of correct solutions, all of which vary very little from one another. ACG did not develop a forecast or allocation methodology different from that of NIPC's DRAM/EMPAL. Rather, ACG used the NIPC and CATS models to disaggregate the NIPC system forecasts and, through analysis of the transportation parameters, to determine the development impacts of an individual project.

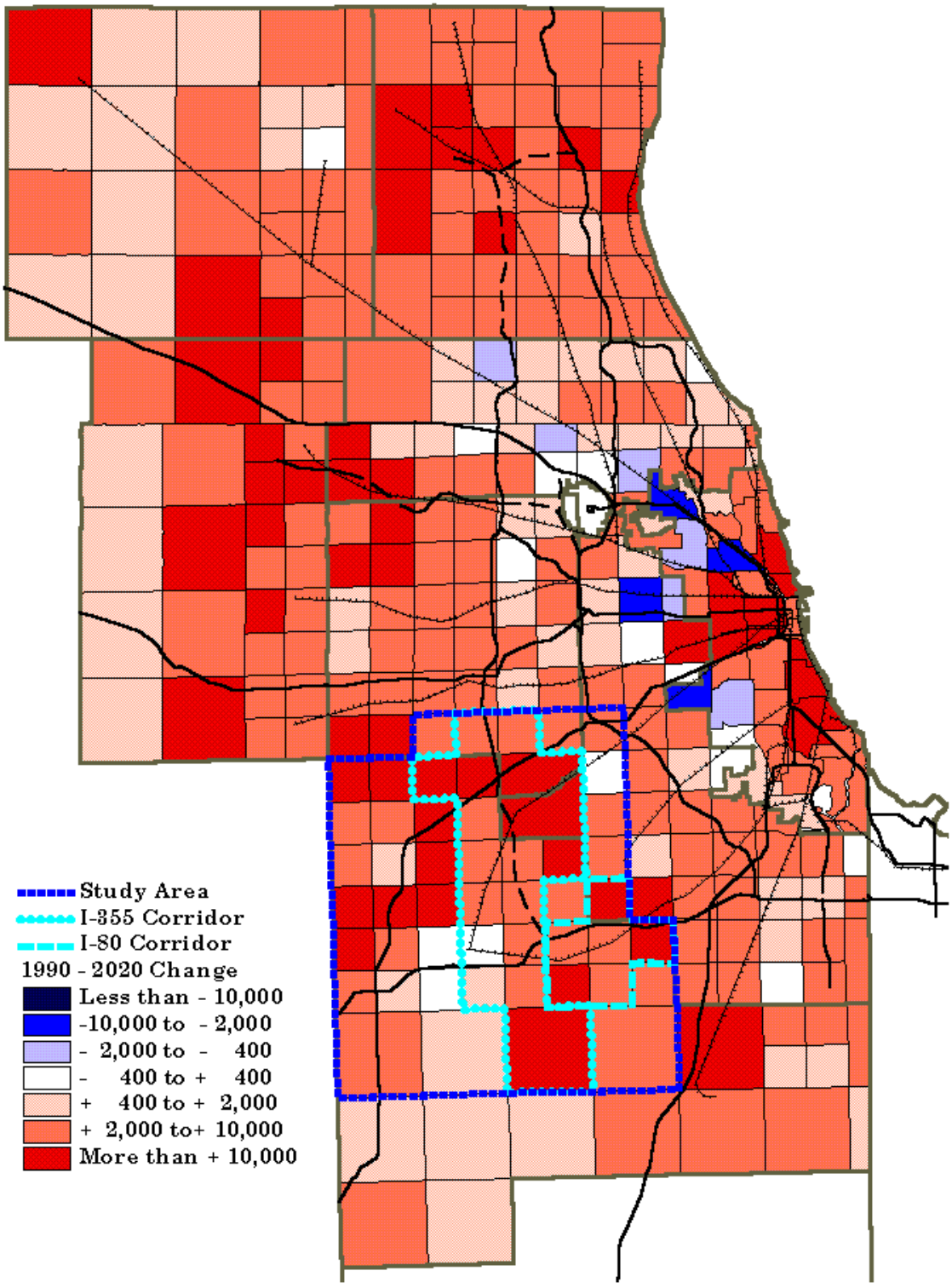
2. Population and Employment Impacts of the EA Full Build System

Exhibits 2 and 3 show the NIPC-generated population change, 1990 - 2020, by NIPC planning zone, assuming No-Build and EA Full Build, respectively. Under both alternatives, the NIPC forecasts show that most of the growth does occur in the region's core (i.e. the City of Chicago inner communities) or its outer rings. The intermediate rings (i.e. the City of Chicago edge communities and the inner suburbs), especially the fully-developed suburbs around O'Hare, experience no significant growth and, in many cases, a decline in population. Some of this lack of residential growth can be attributed to the scarcity of developable land and the ability of commercial and office development to outbid residential uses. However, part of the outward dispersal of population is due to the fact that these areas are well served by the proposed transportation improvements.

Exhibit 4 shows the difference in the NIPC 2020 population forecast, by NIPC planning zones, between the EA Full Build and No-Build alternatives. It is evident from this map that implementation of the EA Full Build would encourage or assist an outward dispersal of population, predominately toward the northern, northwestern and western parts of the region into Lake, Mc Henry and Kane Counties. According to NIPC, most of Cook and DuPage Counties attract fewer persons under the Full Build than under the No-Build. Modest increases in Central Will County are offset by reductions from the northwestern and southeastern edges of that county. It must be pointed out that the impact scale of Exhibit 4 is one-tenth that of Exhibits 2 and 3; consequently, differences are magnified.

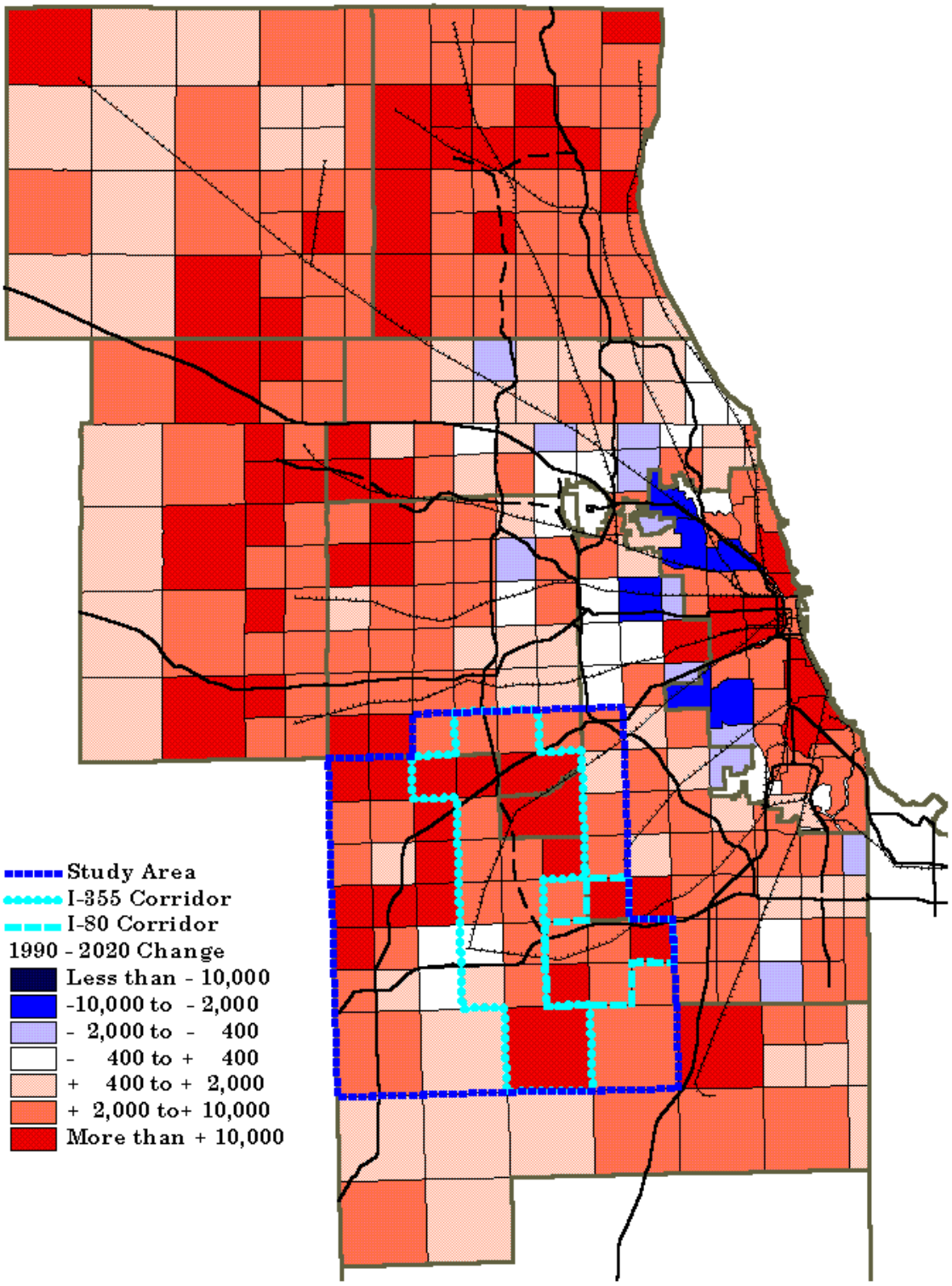
Superimposed on Exhibit 4 is the I-355 Extension Study Area, which encompasses all of Northwest and Central Will County, plus small portions of DuPage and Cook Counties. Inside this Project Study Area are the outlines of the I-355 Corridor and the I-80 Corridor. All arterials as were implied in the RTP are included in the Study. These arterial improvements are not shown, as they are dispersed. However, these arterials, collectively, also impact development; and, as such, these impacts were to be estimated.

Exhibit 2 : NIPC Population Forecasts 1990 - 2020
Without RTP Projects - Existing Airports



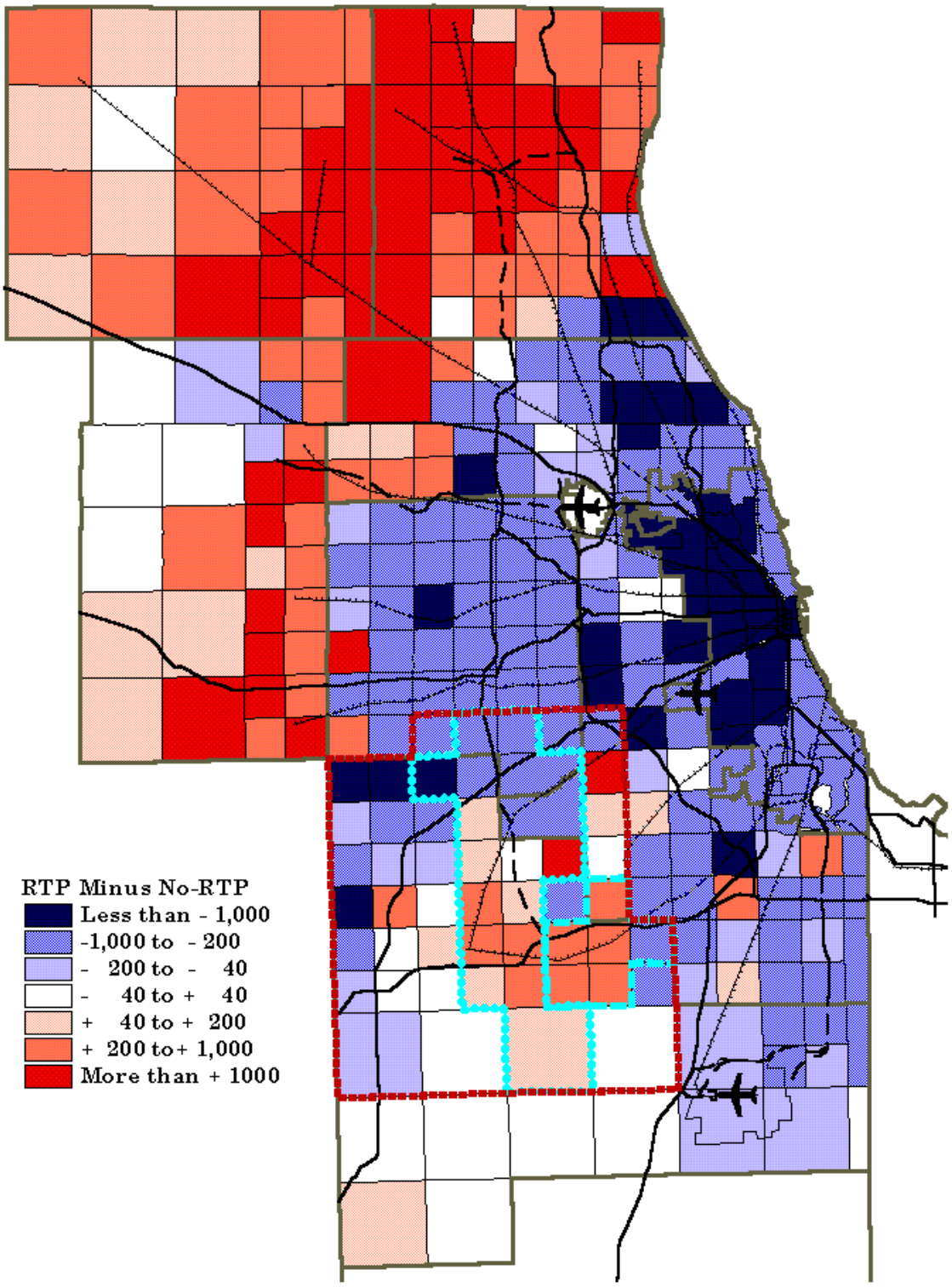
Prepared by The al Chalabi Group, Ltd. **August 1999**

Exhibit 3 : NIPC Population Forecasts 1990 - 2020
With All RTP Projects - Existing Airports



Prepared by The al Chalabi Group, Ltd. **August 1999**

Exhibit 4 : NIPC 2020 Population Forecasts
Differences Between RTP and No-RTP



Prepared by The al Chalabi Group, Ltd. **August 1999**

It is evident, from Exhibit 4, that both major transit (commuter rail) and major highway projects impact development; and both impacts are substantial. From the map, it can be argued that the impacts of railroad projects in the North and Northwest are more significant because they open relatively underdeveloped areas to intense development; whereas, rail routes to the West and South serve existing development. The I-355 corridor serves an area that has shown considerable development, recently, primarily as an expansion, southward, of major development in DuPage County. This recent development is tending to connect some of the Southwest region's oldest communities: Naperville, Downer's Grove, Joliet, etc.

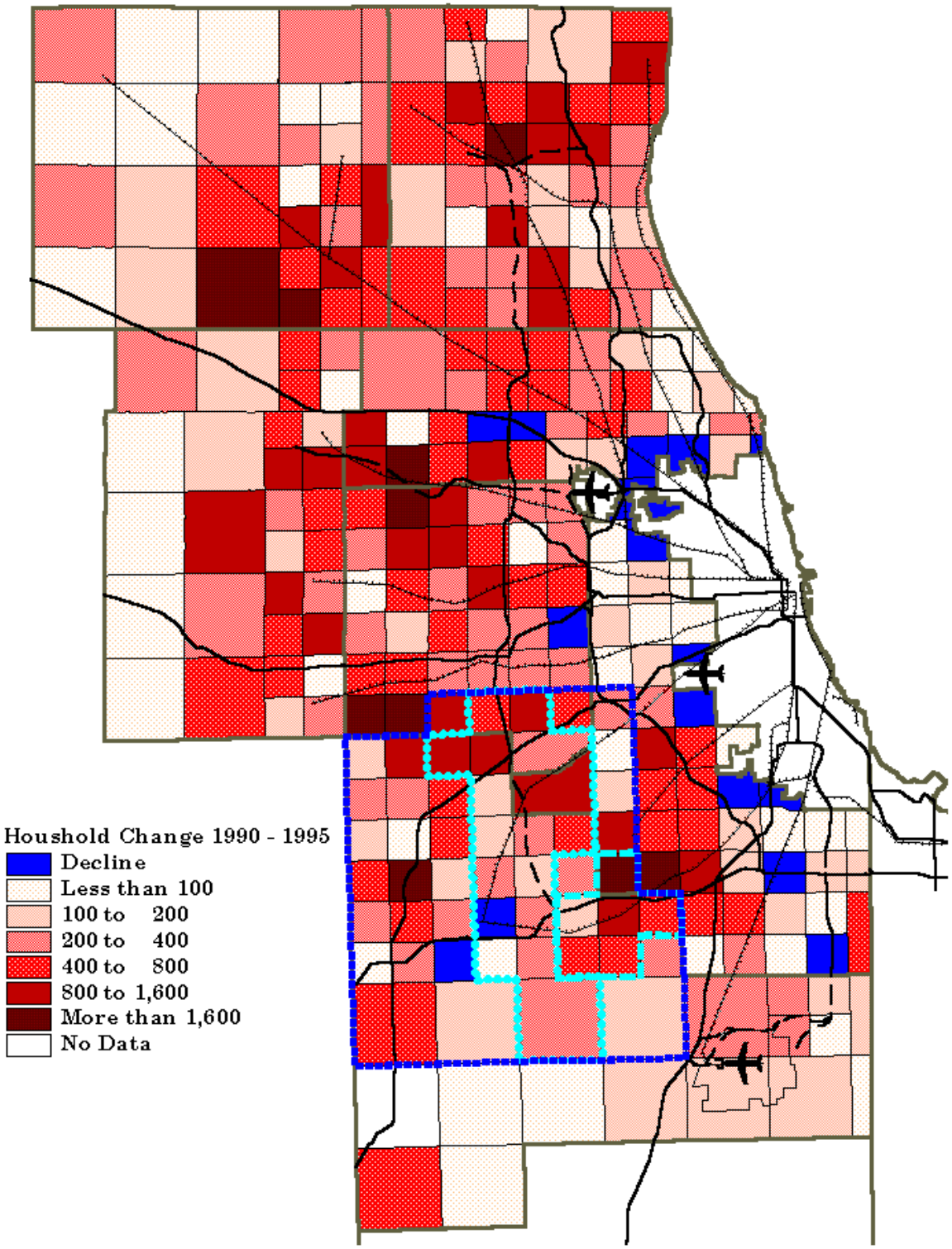
As indicated by records of development, a significant portion of the forecasted impacts of the proposed I-355 highway extension already had taken place between 1990 and 1998, through the above-cited expansions and the revitalization of Joliet and other older areas. Exhibits 5 and 6 show the residential change that has taken place recently in the region and study area. Exhibit 5 shows the growth in households throughout the six- county region for the period 1990 - 1995. The Project Study Area shows growth in all areas except parts of Joliet Township. Exhibit 6 shows more-recent growth trends in the Study Area; it has grown by 118,697 persons between 1990 and 1998, or approximately 31 percent of its 1990 - 2020 No-Build (Existing Airport Scenario) forecasted growth, versus 27 percent of elapsed time. Much of this growth is along the western edges of the I-355 Corridor and along the I-80 Corridor. This is due, in part, to the revitalization of the older cities of Joliet and Lockport.

Exhibit 7 shows the differences in the NIPC total 2020 employment forecasts between the EA Build and No-Build alternatives. The Project Study Area and I-355, I-80 corridor RTP projects in Will County also are shown on the map. The impact on employment of implementing the EA Build, is quite the opposite of the impact on population. Having the EA Build in place tends to reinforce existing employment centers in the region's core employment areas: The Chicago Central Area and the job concentrations around O'Hare Airport. The impact on most of Will County and Southern Cook County of building the entire EA Build is to forfeit job growth.

Because there are few municipalities in the Project Study Area - and, indeed, in all of Will County and surrounding area that are tabulated, individually, by the Illinois Department of Employment Securities - it is difficult to estimate how well the employment growth in the Study Area has kept pace with forecasts. However, the total Will County job growth between 1991 and 1997 was 20,829 and those in surrounding DuPage and Cook County communities tallied another 20,949. If all these latter jobs and half the Will County total occurred in the Study Area, they would be 31,364, or 20 percent of those forecasted for the 1990 -2020 period, versus 20 percent of elapsed time.

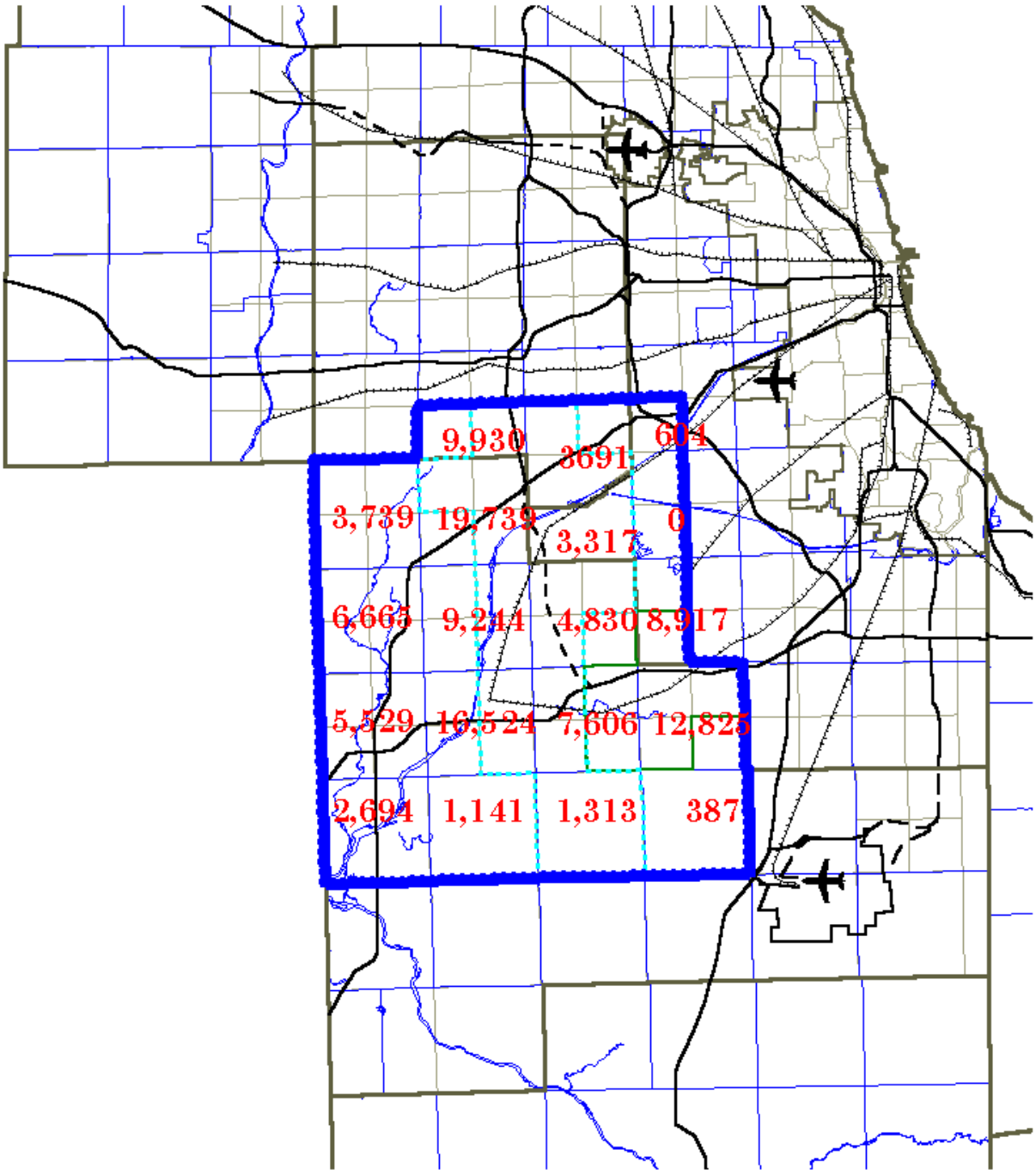
However, most of these jobs are in Southern DuPage and Southwest Cook Counties. The entire county of Will is expected to grow by 123,036 and 232,917 jobs over the 1990 - 2020 period under the Existing Airports and South Suburban Airport

Exhibit 5 : 1990 - 1995 Household Change
Source : Northeastern Illinois Planning Commission



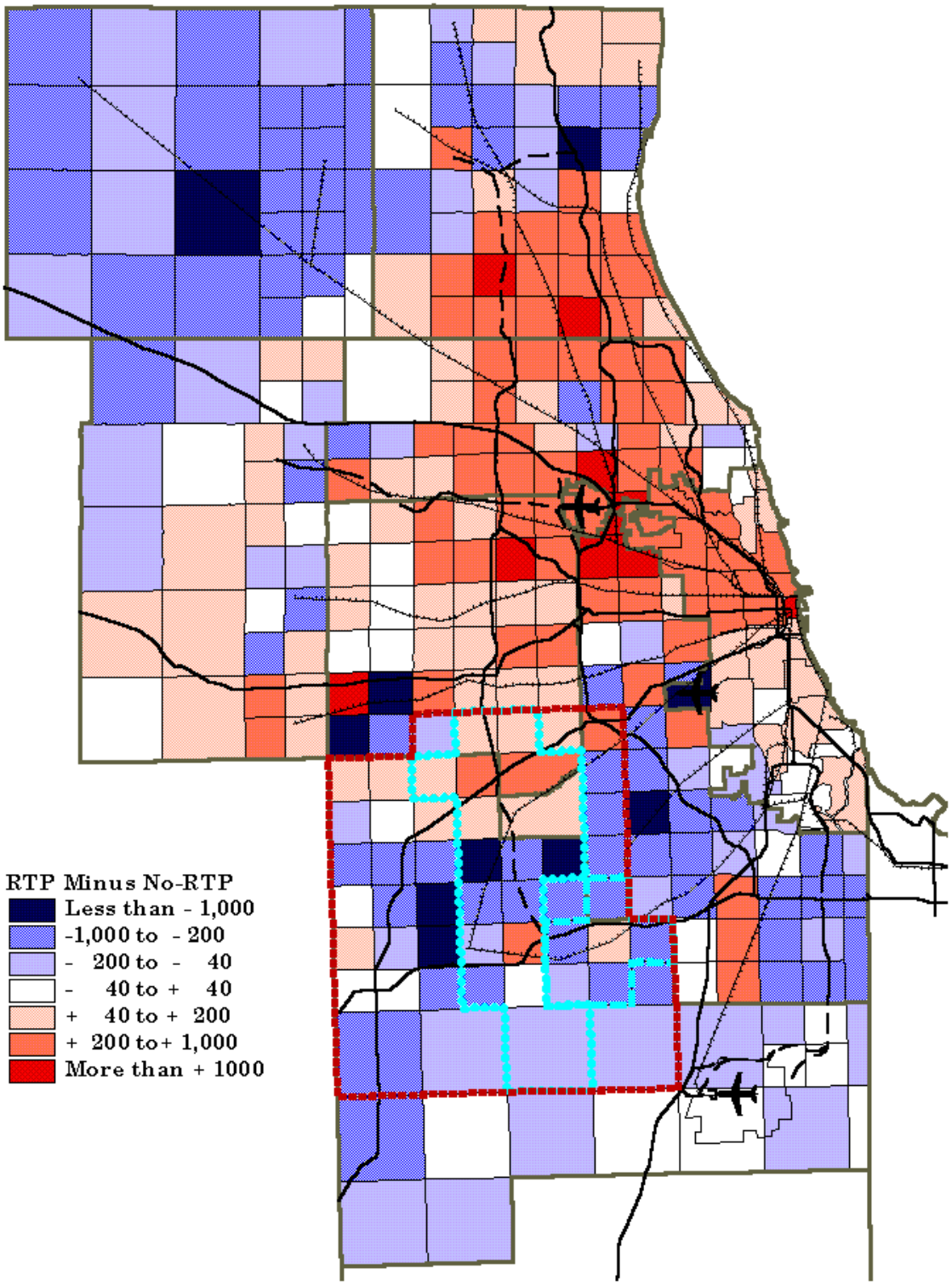
Prepared by The al Chalabi Group, Ltd. **August 1999**

Exhibit 6 : Population Change 1990- 1998
Project Study Area



Prepared by The al Chalabi Group, Ltd. **August 1999**

Exhibit 7 : NIPC 2020 Employment Forecasts
Differences Between RTP and No-RTP



Prepared by The al Chalabi Group, Ltd. **August 1999**

Scenarios, respectively. To date, existing growth has not kept pace with these forecasts; reaching only 17 and 9 percent of the above two forecasts in 20 percent of elapsed time. This is in contrast to the population growth, which is running slightly ahead of forecast. Clearly, residential development is attracted by the lower land and development costs of Will County; while business enterprises are deterred, somewhat, by lack of both transportation infrastructure and air access to domestic and world markets.

3. Determining the Development Impacts on Population and Employment Distribution of the I-355 Extension and the I-80 Add Lanes

a. Overview:

The preceding section showed the collective impacts of the entire EA Full Build system on the development of Northeastern Illinois. This section shows the impacts within the Project Study Area and those specifically attributable to I-355 and I-80, in greater detail. The total net changes within the Project Study Area from 1990 to 2020 are shown in Table 2, below:

Table 2
Total Net Changes in Study Area

	Existing Airports	So. Suburban Airport
• Population impacts	1,311	2,669
• Employment impacts	168	168

As stated, previously, in section C - Determining the Study Area, the impacts of the narrower I-355 Extension and I-80 Corridors are higher than those of the larger Project Study Area. This is due to the fact that much of the positive impact of the corridor is cancelled out by reductions nearby or adjacent to it. The I-355 Extension tends to draw in and concentrate both the population and employment that would have developed west of I-55. These differences are shown on Table 3, as Net, Positive and Negative Changes for the Project Study Area and the Corridors.

One of the major findings of this analysis was that the EA Full Build projects in the Project Study Area have a net impact on the employment distribution which is nearly negligible. The construction of I-355 and add lanes to I-80 tend to concentrate employment at the juncture of these two improvements and to the intersection of I-55 and I-355. These jobs are drawn in and concentrated from areas farther west. They add to the recent job growth in Joliet, one of the region's older cities, and one which had been experiencing job losses over the past several decades.

These additional persons and jobs in the Study Area have been predicted by the NIPC DRAM/EMPAL model. They are relatively small overall, because the I-355 Extension improves the accessibility of North Central Will County to other areas with high concentrations of jobs, namely DuPage County. NIPC has determined that the forecasts for the region, as a whole, would remain the same whether or not the EA Full Build projects were implemented. Accordingly, the additional population and employment forecasts in the Project Study Area must be balanced with slightly lower forecasts elsewhere in the region. Also, it has been noted, that the implementation of the EA Full Build system also would cause forecast shifts within the Project Study Area, itself, which are quite significant.

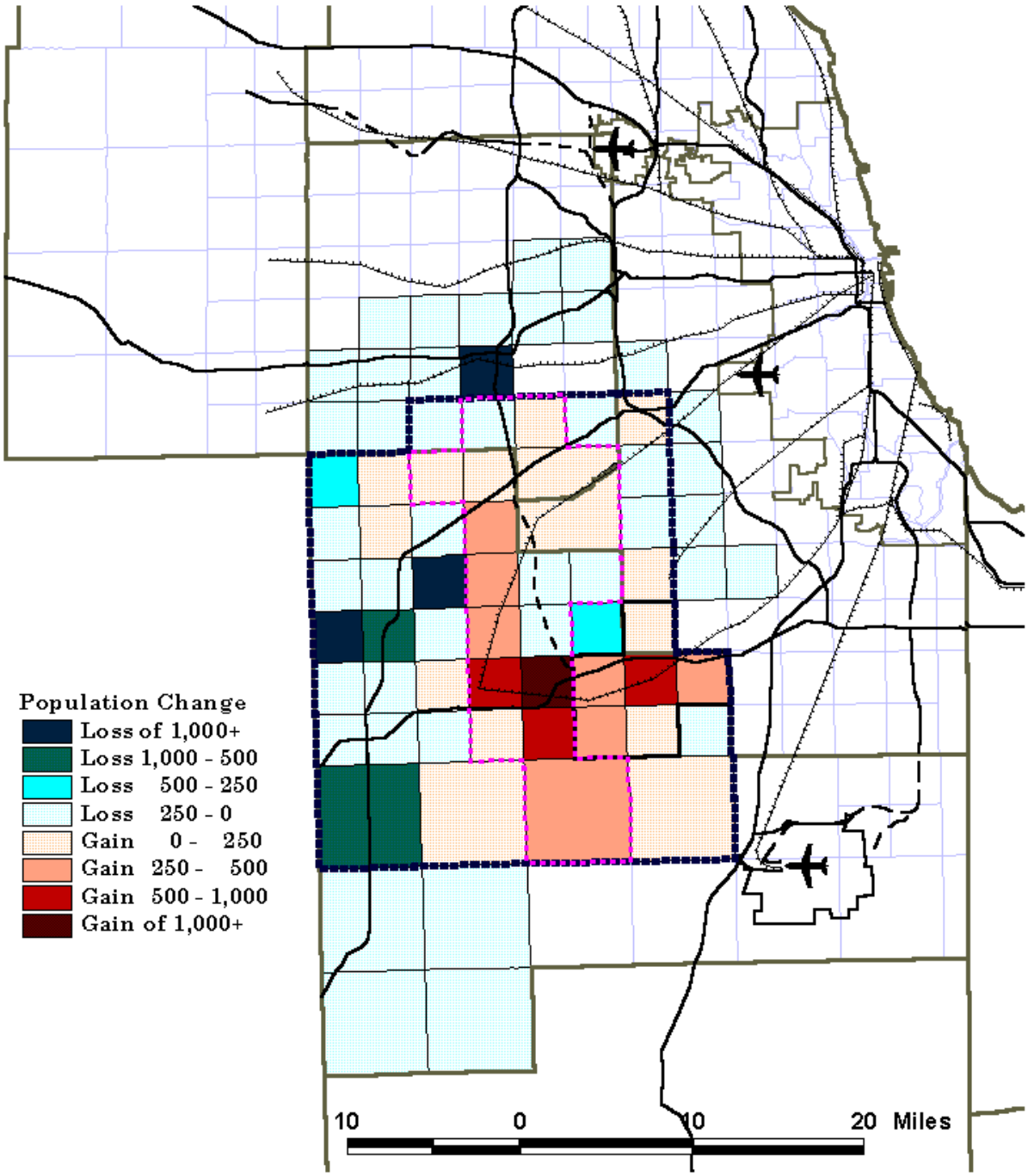
Within the Project Study Area, there is a considerable shift in the location of new population, primarily away from the western edge and concentrated around the I-355 Extension and I-80 Corridors. These shifts allow the added population better access to job concentrations to the north within DuPage County. There is a much smaller shift in employment; however, this shift gathers jobs from both sides of the study area and concentrates them in the center along the I-355 and I-80 Corridors. Exhibits 8 and 9 show the forecasted Population Impacts and Employment Impacts, respectively, in the I-355 Study Area and Corridor Areas under the Existing Airports Scenario. Exhibits 10 and 11 show Population Impacts and Employment Impacts under the South Suburban Airport Scenario.

The impact of each individual transportation project on urban development (i.e. population, households, jobs, etc.) for a specific area is proportional to that project's ability to improve the accessibility of that area to various parts of the region. This is the basic theoretical construct of NIPC's DRAM/EMPAL model. Accessibility is measured in terms of impedance - a combined measure of travel time and cost. The DRAM/EMPAL model also is sensitive to the timing of the transportation improvements. Projects which are completed early in the planning period would have more of an impact on development, in 2020, than projects which would not be completed until later in the planning period. Areas opened to development early have a longer period over which to mature and expand. The NIPC differences between Build and No-Build RTP reflect this truism. As stated earlier, ACG relied completely on the data input and output of the NIPC DRAM/EMPAL and the related CATS transportation models for disaggregating the EA Full Build system-wide impacts into the impacts of individual projects.

b. Population Impacts of the I-355 Extension

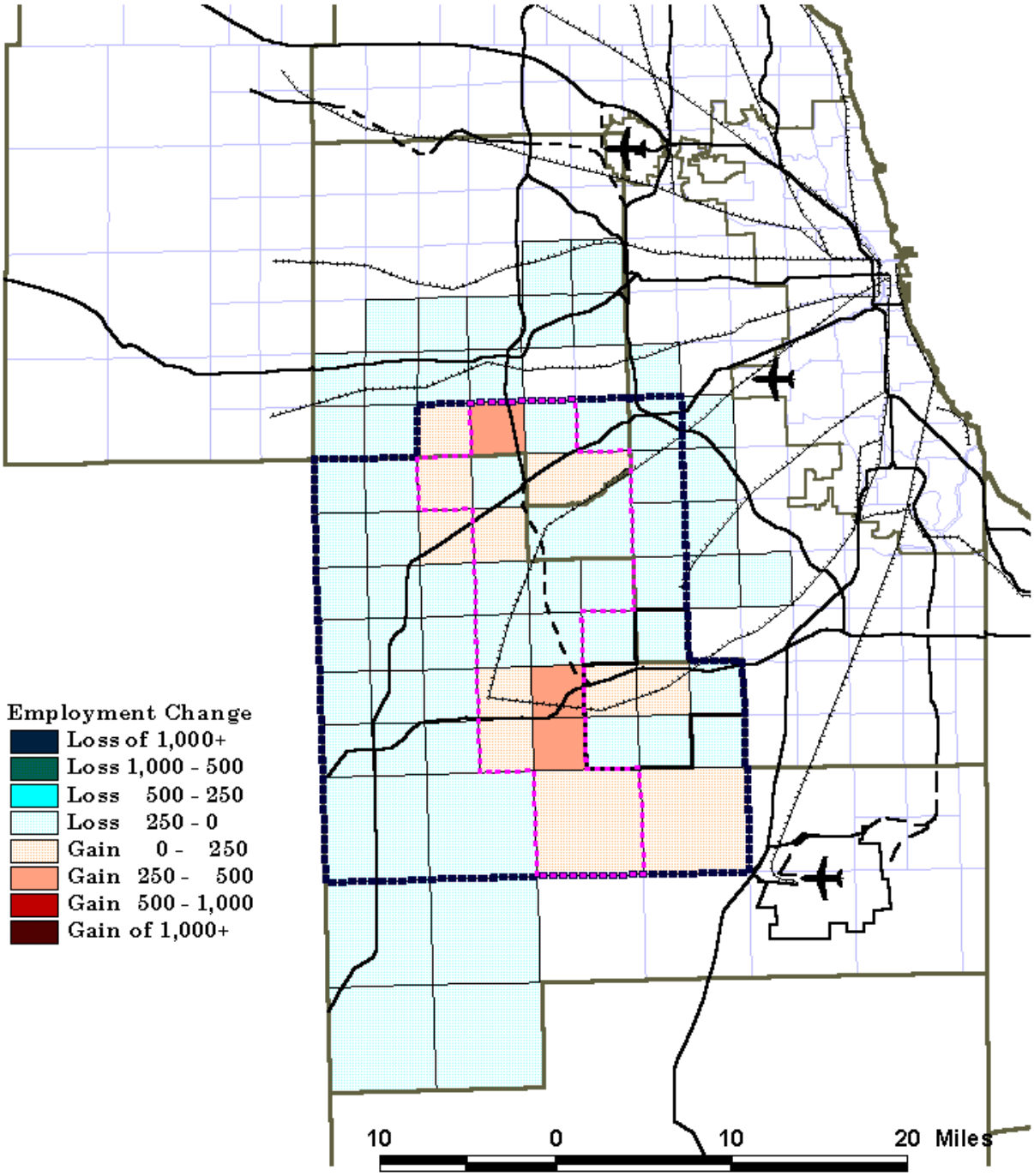
The process of estimating the impact of a highway project on population distribution is complex. The origins and destinations of the users of a specific highway are more diffused and more difficult to determine than those of rail riders. Accordingly, more emphasis is placed on analyzing changes in impedances due specifically to implementing or not implementing the I-355 Extension. Work trip-tables for workers within the Project Study Area also were analyzed; such analyses are

Exhibit 8 : Population Impacts of I-355
Existing Airports Scenario



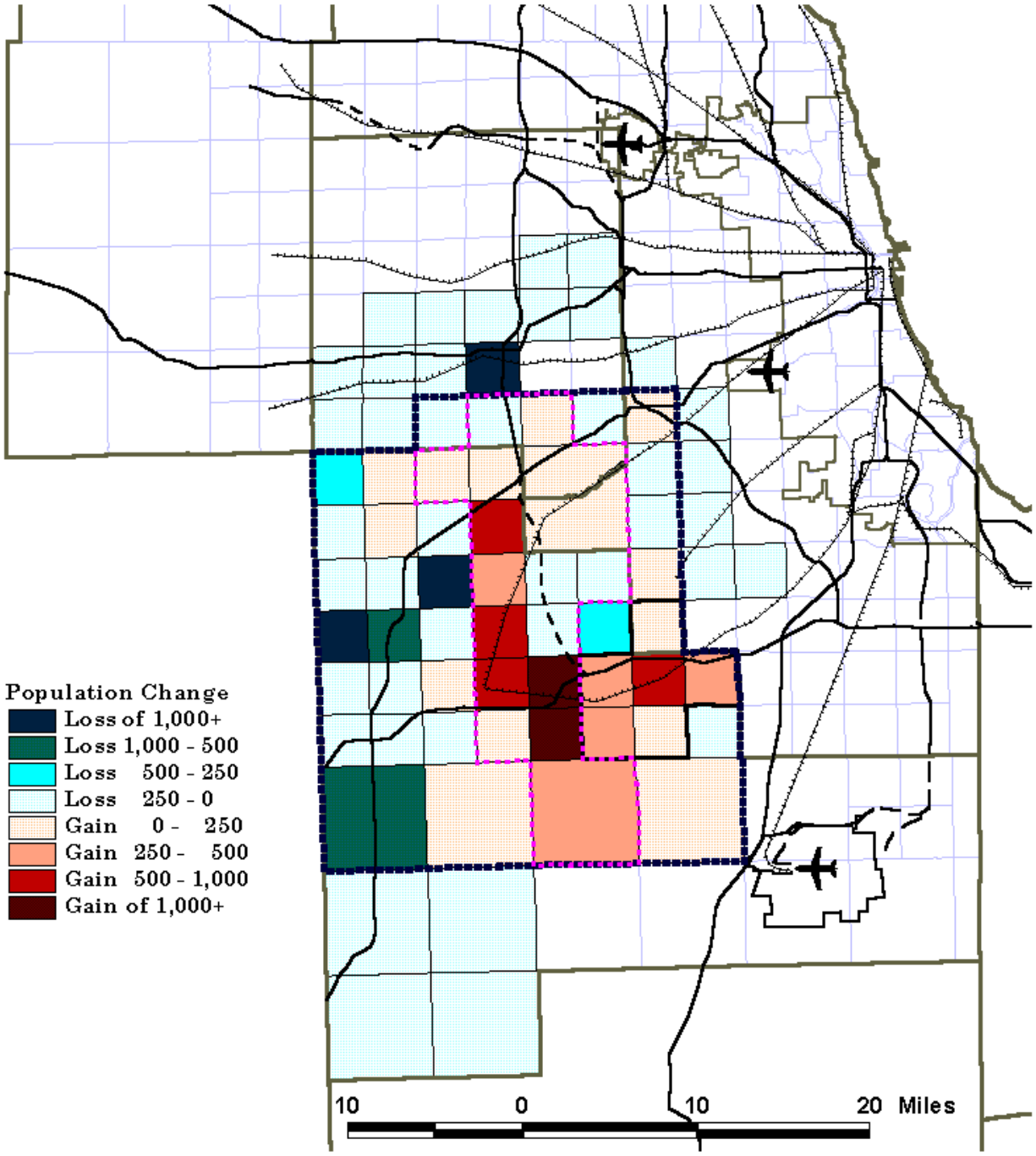
Prepared by The al Chalabi Group, Ltd. **August 1999**

Exhibit 9 : Employment Impacts of I-355
Existing Airports Scenario



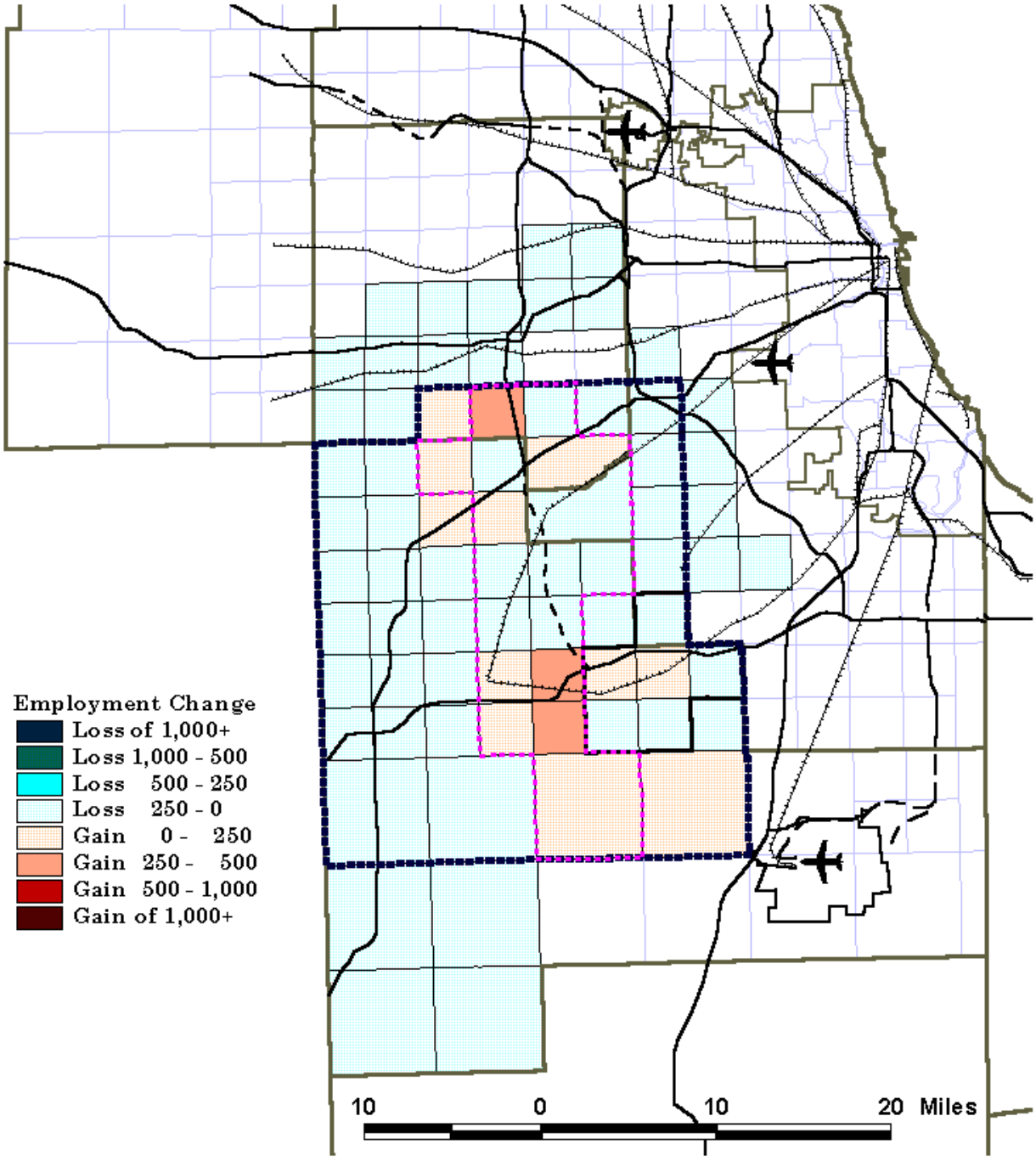
Prepared by The al Chalabi Group, Ltd. **August 1999**

Exhibit 10 : Population Impacts of I-355
South Suburban Airport Scenario



Prepared by The al Chalabi Group, Ltd. **August 1999**

Exhibit 11 : Employment Impacts of I-355
South Suburban Airport Scenario



Prepared by The al Chalabi Group, Ltd. **August 1999**

comparable to the examinations of origin and destinations (boardings and alightings) for rail. Accordingly, the processes of determining impacts of rail and highways on population are conceptually the same; however, these analyses differed in the emphasis placed on their various components (i.e. origin - destinations of users vs. changes in impedances.)

Exhibits 12, 13, 14 and 15 show the change in accessibility for two zones in the Project Study Area, one zone in DuPage County and one zone in Chicago's Central Area, due to the implementation of the I-355 Extension. The following conclusions can be drawn from these maps.

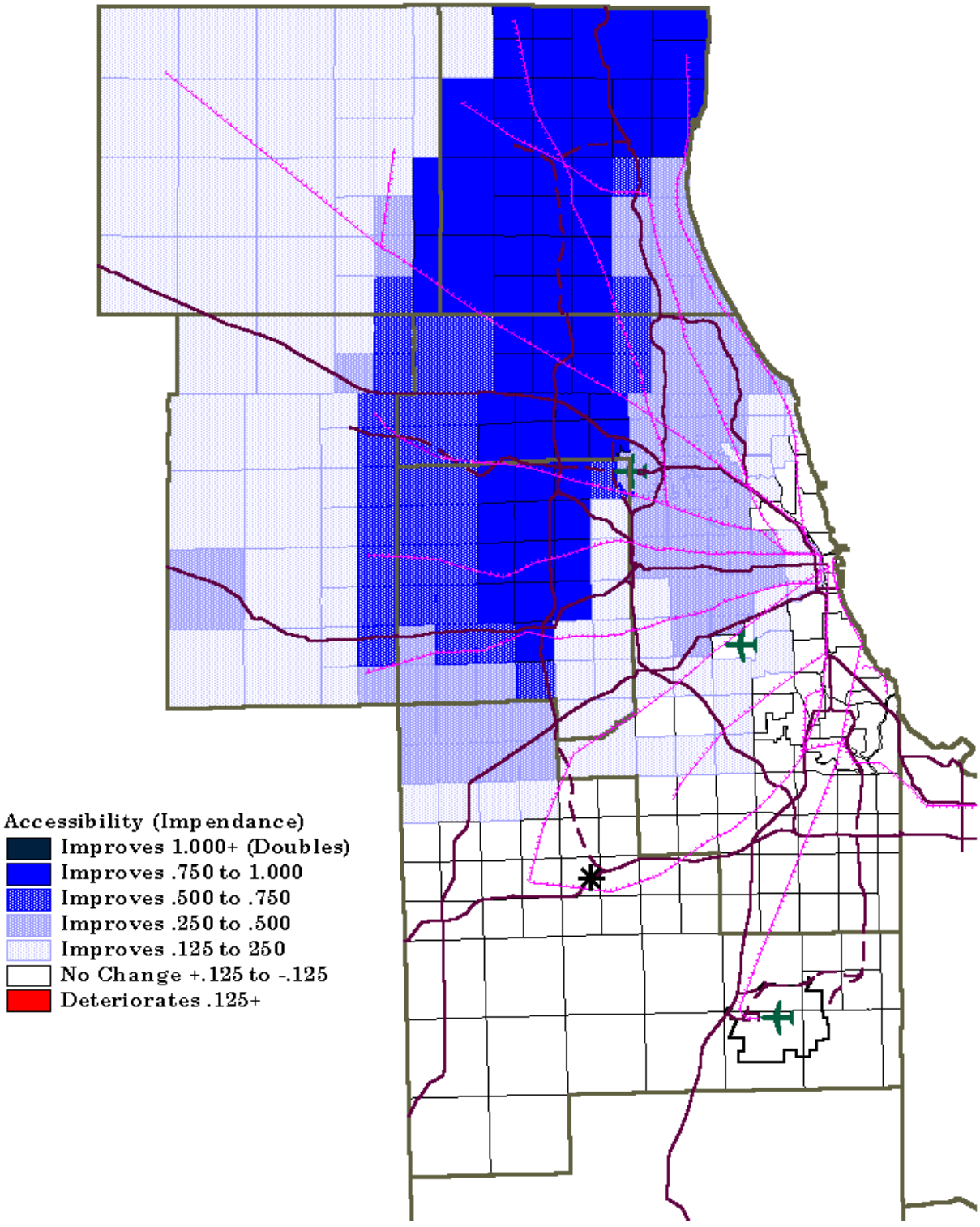
- Exhibit 12: The I-355 Extension would significantly improve the access from North-central Will County (NIPC Zone 630 - at the juncture of the I-355 Extension and I-80) to all the zones along I-355, especially those in Central DuPage County, Northwestern Cook County and most of Lake County. To a lesser extent, access improvements also will occur to Central Cook County and Eastern Lake County and along I-55 and I-290 into the Chicago Central Area. This zone will experience a small loss in accessibility to most of Will and Southern Cook Counties.

- Exhibit 13: This exhibit examines improvement in accessibility for the zone adjacent to the initial extension of I-355, south of I-55 (NIPC Zone 607). Here, the greatest improvement in accessibility occurs to the zones in Eastern Will County. Moderate improvements in accessibility occur along the entire extent of I-355, north, through DuPage, Northwest Cook and Lake Counties. Access declines somewhat to most of Kane and parts of Mc Henry Counties.

- Exhibit 14: This exhibit examines accessibility for the area immediately east, of the Chicago Central Area (NIPC zone 16). Accessibility improves only along the I-355 Extension, itself, primarily at its juncture with I-80. All other zones either remain the same or decline slightly.

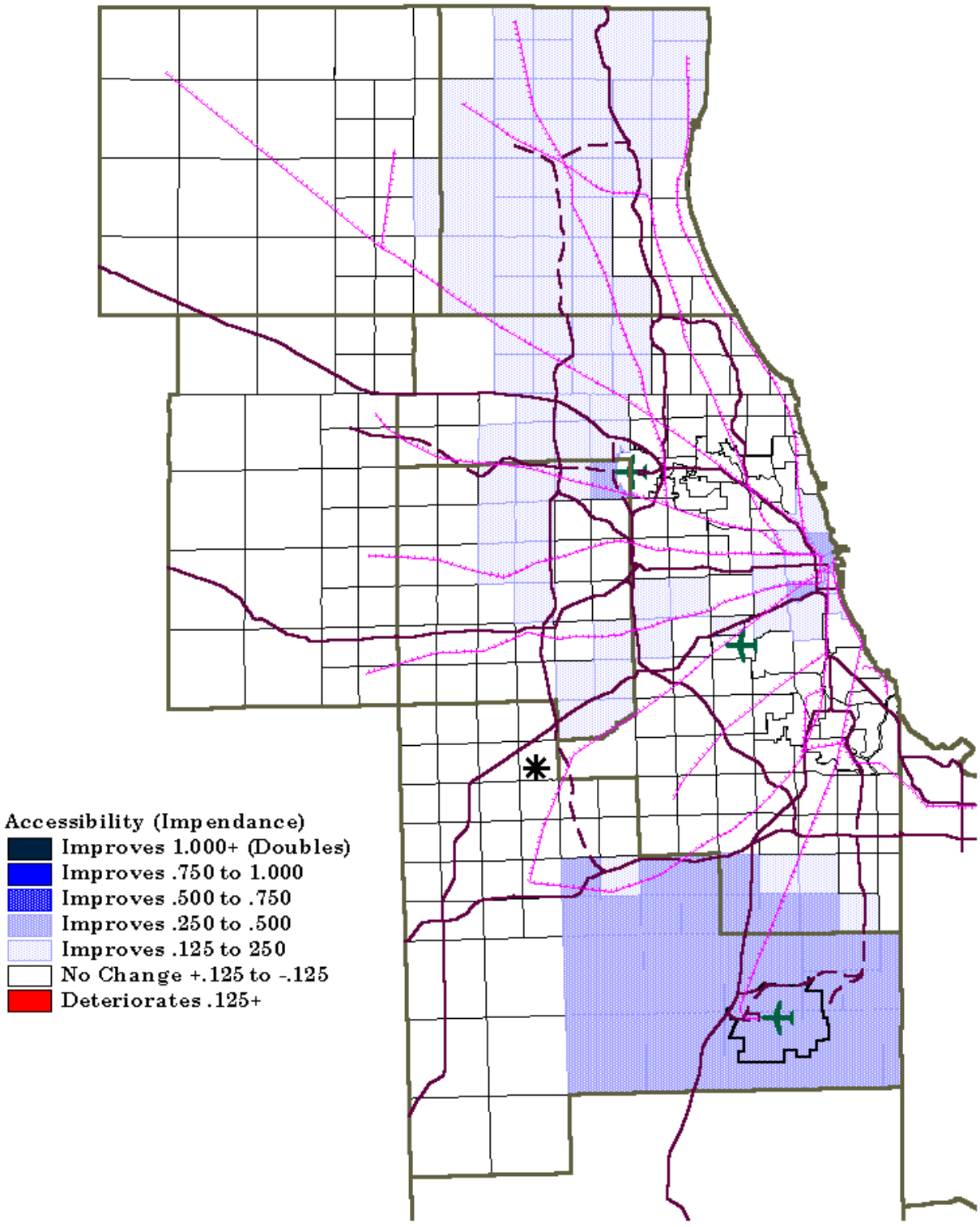
- Exhibit 15: This exhibit shows changes in accessibility from a zone in East-central DuPage County (NIPC Zone 223) to the rest of the region. For this zone, the I-355 Extension brings an improvement only to the Extension Corridor, itself. Access to much of Chicago and most of the North Shore declines. Access deteriorates due to increased traffic from Northwestern and Central Will Counties on I-355 and I-290.

Exhibit 12 : Impacts of I-355 Extension On Changes in Accessibility For NIPC Zone 630



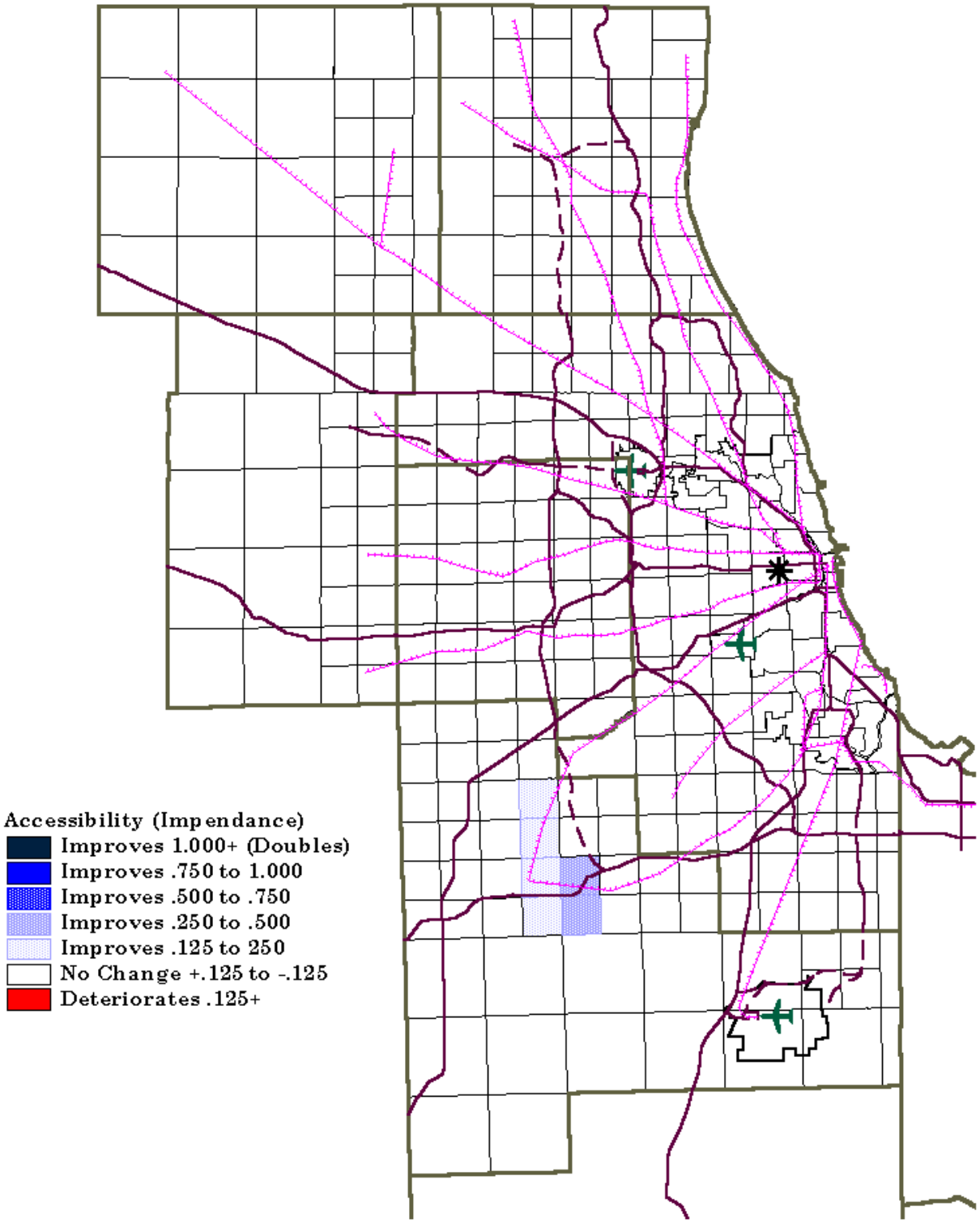
Prepared by The al Chalabi Group, Ltd. **August 1999**

Exhibit 13 : Impacts of I-355 Extension On Changes in Accessibility For NIPC Zone 607



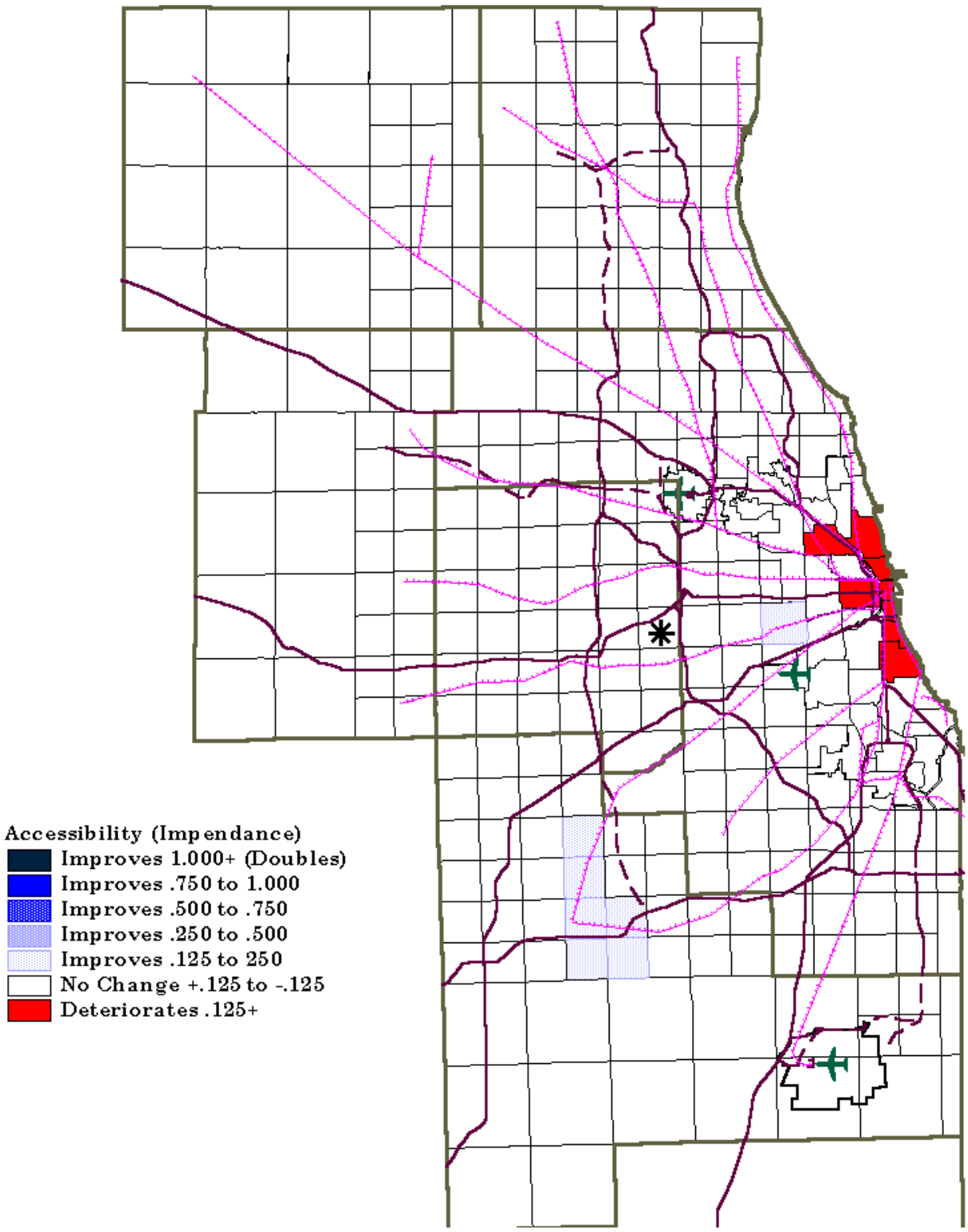
Prepared by The al Chalabi Group, Ltd. **August 1999**

Exhibit 14 : Impacts of I-355 Extension On Changes in Accessibility For NIPC Zone 16



Prepared by The al Chalabi Group, Ltd. **August 1999**

Exhibit 15 : Impacts of I-355 Extension On Changes in Accessibility For NIPC Zone 223



Prepared by The al Chalabi Group, Ltd. **August 1999**

The previous four exhibits graphically illustrate the impacts of the I-355 Extension on the accessibility in four separate NIPC Zones to the remainder of the six-county region.

The processes and analyses, described above, provided, initially, an order of magnitude forecast by major transportation facility. The detailed forecast was achieved following the linking of increases and decreases of population, by planning zone; and by positing a logical explanation for the attribution of part or all of the zonal change to any of the proposed transportation or transit projects. The balancing of the population increases and decreases, by zone, while maintaining work trip interchanges, by mode, on the basis of the NIPC/CATS forecasts limits the possible solutions to a very limited range.

c. Employment Impacts of the I-355 Extension

The process for estimating the impact of the I-355 Extension on net employment change in the Project Study Area, as well as the distribution of these changes by NIPC zone, is not significantly different than the process described for determining the population impacts. Improved highway access in Will County, along I-355, affects employment in two ways. It permits workers to live in Northwestern Will County and work in Southern and Central DuPage County. It also tends to encourage the development of nearby employment centers within the county along I-355 at the intersection of I-355 and I-80. It allows these small businesses, entrepreneurs and business executives to locate their work places close to their residences. For this reason, highway improvements in a suburban residential area tend to encourage the proximate development of employment (generally office) clusters. It tends to be a net importer of jobs, although this is a fairly recent phenomenon and the impact of each highway improvement increases as time permits those developments to mature.

F. Summary of Findings

1. Summary Table Impacts

Table 3 presents the impacts of the proposed I-355 Extension on net population and employment change within the Project Study Area and the positive, negative and net changes estimated for the I-355 Extension corridor and the synergistic impacts of the widening of I-80. As noted earlier, the net changes for each project in the Project Study Area are balanced by an equal and opposite change elsewhere in Northeastern Illinois.

Table 3
Summary of Population and Employment Impacts of I-355 Extension South

Expansion of Existing Airports Scenario

Population Impacts	Positive Change (2)	Negative Change (3)	Net Change (1)
I-355 Corridor	5,204	(166)	5,038
I-80 Corridor	1,848	0	1,848
Sum of Two Corridors	7,052	(166)	6,886
Study Area	7,433	(6,122)	1,311
Employment Impacts			
I-355 Corridor	1,464	(309)	1,155
I-80 Corridor	106	(65)	41
Sum of Two Corridors	1,570	(374)	1,196
Study Area	1,737	(1,569)	168

South Suburban Airport Scenario

Population Impacts	Positive Change (2)	Negative Change (3)	Net Change (1)
I-355 Corridor	6,223	(165)	6,058
I-80 Corridor	2,184	0	2,184
Sum of Two Corridors	8,407	(165)	8,242
Study Area	8,788	(6,119)	2,669
Employment Impacts			
I-355 Corridor	1,464	(309)	1,155
I-80 Corridor	106	(65)	41
Sum of Two Corridors	1,570	(374)	1,196
Study Area	1,737	(1,569)	168

Notes:
(1) - Algebraic sum of all Zones within specified area.
(2) - Sum of zones experiencing positive change as result of the I-355 Extension.
(3) - Sum of zones experiencing negative change as result of the I-355 Extension.

NEXT PAGE